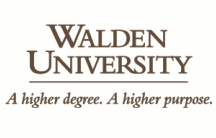

2015

Progression of Elementary Teachers in Implementing Language Arts Common Core State Standards

Holly Franks Boffy
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COLLEGE OF EDUCATION

This is to certify that the doctoral study by

Holly Boffy

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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2015

Abstract

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

The challenges of implementing the Common Core State Standards at the classroom level resulted in political pushback to the reform initiative after the local media covered poor implementation decisions. This study explored how elementary school teachers and instructional leaders described teachers' progress along the implementation continuum for the standards. The concerns-based adoption model served as the conceptual framework for this study. This multicase study design consisted of 16 interviews of teachers and instructional leaders from 4 schools. Data were analyzed through a process that began with open coding followed by axial coding to identify themes. Teacher collaboration driving implementation progress emerged as a theme. The following needs also emerged: (a) training to make the required instructional shifts, (b) common processes to monitor implementation progress, and (c) aligned resources. The results led to a semester-long professional development project pairing a quality improvement process popular in other fields with the existing professional learning community structure to address the problem. This project built on the implementation progress made through working collaboratively to meet the training needs of the teachers; the project also included mechanisms for monitoring teachers' progress in implementing the standards. The project study provides insight and specific steps for teachers and leaders working to implement the standards. Students will be the ultimate beneficiaries of this project study through improvements in their teachers' instructional practice.

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Dedication

With love I dedicate this work to my husband Carrick, to our son Pierce, and to my paternal grandparents who are no longer with us—K.T. and Iva Franks. K.T.'s legacy as a leader and Iva's legacy as a teacher started me down this path. Carrick's support helps me achieve my goals, and my hopes for Pierce's future motivate me to continue pursuing excellence in education.

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I am grateful for the support of faculty and the teachers who have helped me. Dr. Thompson has been a blessing as she has pushed my thinking and experienced the highs and lows with me. The contributions of both Dr. Ota and Dr. Englesberg also helped to improve my work. I appreciate all of the teachers beginning with Mrs. Wagstaff in kindergarten who helped me to learn and grow in preparation for this work. I also appreciate the teachers and leaders that made this study possible through their contributions of time and expertise as participants.

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To my family who has given the most, I am eternally grateful. I appreciate Carrick, Granny, and Becky for making sure we always had dinner. I appreciate Carrick, Granny, Popa, Mimi, Becky, Denis, Nathalie and Amanda for making sure Pierce was entertained. I appreciate Becky and Estelle for creating Carrick's expectation for women to be strong and successful. I appreciate Pierce for being my motivation to exemplify lifelong learning. I am especially grateful to God for blessing me with wonderful people, fabulous opportunities, courage to try, and enough of all that I need to persevere.

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Section 1: The Problem

Introduction

The Common Core State Standards (CCSS) were developed by states collectively working with the National Governors Association (NGA) and the Council for Chief State School Officers (CCSO) to identify college- and career-ready standards for students in English language arts and mathematics beginning in 2009 (NGA & CCSSO, 2014). The adoption of the CCSS by "forty-five states, the District of Columbia, four territories, and the Department of Defense Education Activity" occurred in 2010 and 2011 (NGA & CCSSO, 2014). The CCSS were adopted in Louisiana in 2010 (Louisiana Board of Elementary and Secondary Education, 2014). The CCSS were written to improve upon previous standards written by states and professional organizations that left gaps in what students learned compared to what they needed in order to be ready for college and careers (Haycock, 2010). The guiding principles of creating higher, fewer, and clearer standards were the basis for the creation of the CCSS (Watt, 2011). The achievements in Massachusetts on the National Assessment of Educational Progress and the international TIMMS demonstrated the positive outcomes of strong standards paired with successful implementation (Carmichael, Martino, Porter-Magee, & Wilson, 2010). Standards for students provide the foundation for curriculum, student assessments, teacher preparation, teacher professional development, and ultimately accountability (Carmichael et al., 2010).

The challenges of implementing the CCSS led to the decision by a state representative in Louisiana to announce a plan to introduce legislation in the 2014 session

forcing educators to abandon the standards that were adopted in 2010 (Sentell, 2013b). Although political ideologies drove some of the pushback, issues and events surrounding the implementation of the standards caused some of the concerns (Vanacore, 2013). This study focused on how teachers progress in the implementation process. Implementing the CCSS requires educators to rethink and redesign lesson plans, student assessments, lesson materials, teaching practices, and student assignments to support students in meeting the higher standards (Alexander, 2013; Webb, 2013). This change, which is referred to as a "once-in-a-generation shift" by the state education chief, is the highest profile issue among educators (Duke, 2013; McElfresh, 2013b). The topic has also earned attention from the general public as evidenced by countless news stories, letters to newspaper editors, and attention from political leaders, including a legislative briefing, because of the difficulty some are experiencing in implementing the standards (Baniewicz, 2013; David, 2013; Hasten, 2013; Louisiana Department of Education, 2013; McGaughy, 2013; Sentell, 2013b).

Definition of the Problem

The implementation of the standards varies by state and school district (NGA & CCSSO, 2014). Following the 2010 adoption of the standards in Louisiana, the Louisiana Department of Education created a gradual transition plan culminating in students taking standardized assessments created specifically for the CCSS in the spring of 2015. The transition plan was updated in 2013 and again in 2015 to extend the implementation timeline by reducing the high-stakes nature of the new standardized tests

until 2017. The state implementation plan provides local educators with the authority to make decisions about curriculum (Louisiana Department of Education, 2015).

Therefore, the responsibility for implementing the standards rests with the classroom teachers and school leaders who are responsible for supporting students in achieving the standards (Eilers & D'Amico, 2012). Implementing innovations is a process, just like grief is a process (Pickard, 2009). The difference is that grief is a naturally progressing process (Baier & Buechsel, 2012). Educators do not naturally progress along the implementation continuum (Warner & Myers, 2011). Sometimes educators become gridlocked because they lack an understanding of what the next stage of implementation consists of, what next steps are necessary in order to progress to the next stage of implementation, or the appropriate supports to progress along the implementation continuum (Toplis, Golabek, & Cleaves, 2010; Yan & He, 2012).

This lack of understanding of how to progress can be attributed to multiple factors for the CCSS. The standards in Louisiana come without a curriculum for educators to follow (Wall, 2013). Oftentimes innovations are part of a program with explicit terms for implementation. This is not the case for the CCSS in Louisiana (Eilers & D'Amico, 2012). Teachers and their school districts are empowered to make decisions about how to implement the standards (Alexander, 2013; Louisiana Department of Education, 2013; Sentell, 2013a). This commission creates a responsibility for local educators.

This responsibility is a challenge for educators to fulfill (McElfresh, 2013a; Webb, 2013). To support the local school districts in implementing the standards, the Louisiana Department of Education trained a cadre of teacher leaders, consisting of one

teacher from each school in 2013 (Sills, 2013). Teacher training is viewed as one of the drivers in the implementation of the CCSS (Baniewicz, 2013). In addition to training teachers, the Louisiana Department of Education created a network of school districts in 2011–2012 based on similar demographics and provided a leader for these networks along with a staff for local district and school leaders to call upon for support in the implementation process (Louisiana Department of Education, 2013). The Louisiana Department of Education also provided an electronic toolbox of resources during the 2012–2013 school year and published curriculum guidebooks in 2014 for teachers to use in implementing the CCSS (Louisiana Department of Education, 2014; Sills, 2013).

Local school districts have approached implementation of the CCSS in various ways (Duke, 2013; Erwin, 2013). Although some began aligning their curriculum when the standards were first adopted, others began training teachers the summer before implementation (Carr, 2013a; Sills, 2013). In addition to variations in the amount of training that districts are providing to teachers, districts also differ in their approach (Carr, 2013b). Some districts are hiring consultants to create curriculum materials, and others are investing in building the capacity of their own educators to meet the needs (Carr, 2013a). I selected one district for this study to keep the influences of the district constant in order to focus on the experiences of the teachers. Any district in the state could have been selected because this is a current challenge for all districts in the state. The selection of the district was made based on feasibility of accessing participants.

The purpose of the research was to examine the implementation of the CCSS and to explore how teachers progress along the implementation continuum (Hanbury, Farley,

Thompston, Wilson, & Chambers, 2012). Studying the progress of teachers along the implementation continuum of both the English language arts and math standards across the grades was too large of a scope for this research, so I selected English language arts as a content area and third through fifth grades as a cluster of grades to narrow the focus. Elementary school teachers are more likely to combine various resources when making instructional decisions for English language arts than mathematics (J. C. White, personal communication, November 19, 2013); third through fifth grades have the common characteristic of state standardized tests for students. The younger grades focus on learning to read as opposed to reading to learn and do not participate in state testing (Loertscher, 2010).

Previous research described the drivers and barriers of implementation, but much more needs to be learned about the implementation process of education initiatives. This research contributes to an understanding of the local problem by detailing the progress of the "street-level" individuals responsible for the implementation of the CCSS (Dahill-Brown & Lavery, 2012).

I selected this local problem because of the current need in education for more research on putting the CCSS into practice.

Implementation of educational reforms and curriculum modifications is not a new challenge; however, thus far, education policies, initiatives, and reforms in the United States have historically lacked comprehensive implementation strategies (Hord, Stiegelbauer, Hall, & George, 2006; Levin, 2009). Education policy and schools in the United States have evolved over the last 60 years with the introduction of curriculum

programs, standards, high-stakes testing, and school accountability; however, widespread changes in U.S. classrooms have not been so prevalent because the changes in policies have not been successfully implemented into practice (Dorner, Spillane, & Pustejovsky, 2011; Elmore, 1995; Fullan, 2007).

Progressive era reformers believed that their reform ideas would spread naturally; however, their efforts were followed in the 1950s and 1960s with an "adoption era" as the field was inundated with curriculum reforms (Fullan, 2009). Evaluations of projects and literature from the 1970s demonstrated that curriculum reforms do not spread naturally (Elmore, 1995). Research on the implementation of programs and practices began in the early 1970s when the Research and Development Center for Teacher Education at the University of Texas at Austin began studying the phenomenon (Hord et al., 2006). Educators now understand well the importance of implementation (Levin, 2009). Unfortunately, the literature continues to reveal more information on what not to do instead of proactive steps for successfully implementing innovations (Wallace, Blase, Fixsen, & Naoom, 2008).

The CCSS are the most recent iteration of a 30-year-old, research-based reform effort to increase student learning that began with the publication of *A Nation at Risk* in 1983 (Bailey, 2010; Dorner et al., 2011). The growing need for more students to attain postsecondary education supported the development of standards (Griffith, Massey, & Atkinson, 2013). Previous versions of state standards were created by individual states before states collectively created the CCSS (Manna & Ryan, 2011; Obara & Sloan, 2010). Standards for students gained prominence over time with the 1994 Elementary

and Secondary Education Act, Goals 2000, and the No Child Left Behind Act of 2001 (NCLB; Pritchett & Black, 2009). NCLB codified the requirement for student standards and created sanctions for states when students did not make adequate yearly progress in meeting the standards (Barley & Wegner, 2010; Miller, 2010). However, in an effort to avoid penalties, some states set the standards low (Dahill-Brown & Lavery, 2012). This component of NCLB is cited as ineffective for this reason (Carr, 2012; Connor, 2011; Terry, 2010). The CCSS are high standards adopted by an overwhelming majority of states (Liebtag, 2013).

Rationale

The rationale for choosing this problem was multifaceted. The significance of the CCSS is demonstrated by widespread adoption (NGA Center for Best Practices & CCSSO, 2012). However, studies on the standards are limited in number. A recent news article described a study of educators that confirmed that the challenges in implementing the standards are emerging across the country (Hasten, 2013). The statewide test addressed the CCSS for the first time in the spring of 2014. The state will institute assessments designed by the Partnership for Assessment of Readiness for College and Careers in the spring of 2015, so local districts are currently focused on implementing the CCSS (Louisiana Department of Education, 2013). This is similar to the approach used in Finland, where local educators decide how to implement the national framework (Sahlberg, 2011). The implementation of new standards, paired with the new approach in the state to empower local educators, has made implementation of the standards a high-profile issue that requires additional research.

Definitions

Definitions of special terms are as follows:

Concerns-based adoption model (CBAM): A multi-dimension framework that identifies the needs of individuals in the process of implementing an innovation (George, Hall & Stiegelbauer, 2013).

Common Core State Standards (CCSS): These standards outline the knowledge and skills that students need to obtain in English language arts and mathematics at each grade level from kindergarten through grade 12 (National Governors Association Center for Best Practices & Council for Chief State School Officers, 2012).

Levels of use (LoU): The dimension of CBAM that focuses on the actions of individuals in implementing an innovation (Hall, Dirksen & George, 2006).

Stages of concern (SoC): The dimension of CBAM that focuses on the beliefs and attitudes of individuals as they implement an innovation (George et al., 2013).

Significance

Potential benefits of this study include findings that add to the scholarship on implementation. The failure of reform agendas to produce desired results in education has more to do with poor implementation than the content of the reforms (Barber, Moffit, & Kihn, 2011). This study's findings will benefit educators attempting to implement innovations (Wallace et al., 2008). Gaining insight into how teachers progress in the implementation process holds tremendous potential for the field.

The study presents potential benefits for educators and policymakers due to the widespread adoption of the standards (NGA Center for Best Practices & CCSSO, 2012).

Policymakers will make more informed decisions about allocating resources with a better understanding of how teachers progress in the implementation process (Towndrow, Silver, & Albright, 2010). The findings will also benefit leaders in making informed decisions about what professional learning structures and opportunities to provide, how to support teachers, how to allocate resources, and how to gauge the success of the implementation in their own schools (Eilers & D'Amico, 2012). Teachers will also benefit from the findings by having other cases with which to compare their own processes (Simpson, 2013). The individuals participating in the study will also benefit from the reflective activity of participating in an interview focusing on their work (Ricca, 2012).

Research Question

The overarching research question driving this case study was: How do elementary school teachers and instructional leaders describe teachers' progress along the Common Core State Standards implementation continuum?

The subquestions that assisted in answering the overarching question were:

- How do elementary school teachers describe their current status on the implementation continuum?
- How do elementary school teachers describe their experience of progressing from one stage to the next along the implementation continuum?
- How do elementary school instructional leaders describe teachers' experiences in progressing from one stage to the next along the implementation continuum?

Review of the Literature

Conceptual Framework

The CBAM served as the conceptual framework for this study because implementing the CCSS on such a broad scale requires careful attention to the individuals responsible for executing the innovation in practice (Hall & Hord, 2011). The CBAM consists of three dimensions including innovation configurations (IC), SoC, and LoU. Examination of the implementation process of an innovation, from the perspective of the dimensions and during the implementation phase, informs practitioners and policymakers of implementation needs (Hall & Hord, 2011; Pickard, 2009). This framework is specifically focused on the process and individuals responsible for moving an innovation from policy to practice.

One of the greatest obstacles to the implementation of innovations is lack of clarity (Heath & Heath, 2010). IC is a dimension of the CBAM outlining what the innovation looks like at various levels of implementation. ICs provide clarity through describing what an innovation looks like in practice at various stages from partial implementation to ideal implementation, increasing the likelihood that the innovation will be properly interpreted (Drame & Pugach, 2010; Hord et al., 2006). This type of tool minimizes the problems that occur with variations in identifying successful implementation (Towndrow et al., 2010). ICs were actually developed after the other two dimensions of CBAM: SoC and LoUs. In using the other two dimensions, researchers realized that people implementing innovations and those evaluating the implementation of an innovation need a clear understanding of what it looks like at various stages of implementation (Hord et al., 2006). Visually, ICs look similar to rubrics and are

organized so that the implementation process is divided into categories and displayed in a matrix that demonstrates stages of progress. In addition to providing clarity on what the implementation process looks like, ICs can also be used to direct professional learning, coaching, self-reflection, resource allocations, assessments, evaluations, and research (Hall & Hord, 2011). The detailed categories of the ICs provide a roadmap for those leading the change and those implementing the change to break down the process into steps. Only one IC was located, through an Internet search, for implementing the CCSS (Carr, 2012). No other information accompanied the IC to explain the development of the tool.

The second dimension of CBAM is SoC. SoC are focused on how people respond to change on an individual level. These affective responses of individuals implementing change mirror the grief process that is a natural state of change (Hall & Hord, 2011; Heath & Heath, 2010). Hall and Hord have identified four broad stages in the process, with distinguishing levels in some of the stages. The SoC provide insight into understanding how individuals implementing the CCSS may think about the experience as it unfolds. The first stage is *unconcerned,* in which concerns are not manifested until individuals actually begin the process. The process begins with personal concerns at the stage labeled *self*. This stage is subdivided into unconcerned, informational, and personal. At this stage, individuals may not be concerned about the innovation (unconcerned), they may be considering the innovation on a superficial basis (informational), or they may become curious about their own capacity to enact the innovation (personal). Once individuals move beyond self, they become focused on the

activities involved in the innovation at the stage labeled *task*. At the task stage, individuals are focused on how to manage the day-to-day requirements of the innovation. After individuals become comfortable with the day-to-day implementation tasks, their attention and SoC elevates to *impact* (Hall & Hord, 2011).

The impact stage can be subdivided into *consequence*, *collaboration*, and *refinement*. These subdivisions can be described as considering the potential impact of the innovation (consequence), collaborating with others to enhance the innovation (collaboration), and considering necessary improvements (refinement; Hall & Hord, 2011). Movement through the SoCs is unique to the individuals implementing the change. The SoCs dimension will be used in this study to serve as markers along the implementation continuum, inform the analysis of data, and inform my understanding of how individuals experience change.

The final dimension of the CBAM is the LoU, which describe the actual behavior changes or lack thereof involved with implementing the innovation. It further addresses the degree to which users are using the new initiative. Initially, individuals are classified as *users* or *nonusers*. Each of these categories is then broken down into more specific LoUs. The LoUs of nonusers includes *nonuse*, *orientation*, and *preparation*. When individuals are at the nonuse level, this signifies that there is a lack of knowledge of the innovation. When individuals are at the next level, orientation, this signifies that they are obtaining information about the innovation. This is then followed by the preparation level, where individuals are making preparations to act. These levels highlight the steps individuals will take in becoming users of the CCSS.

The LoUs of users compared to nonusers include multiple levels (Hall & Hord, 2011). Mechanical use is the first level of use. At this level, individuals are focused on acting on the innovation one day at a time. Teachers implementing the CCSS at this level are creating short-term plans and are identifying resources that will address the CCSS. Once individuals progress, they move to the routine level. At this level, the work stabilizes and little preparation is required. The long-term plans for CCSS begin to take shape. Individuals who move into the next level, refinement, work to vary the innovation to increase the impact. With the CCSS, individuals at this level are adjusting short- and long-term plans along with materials and assessments to meet students' needs. At a deeper level, integration, individuals work with colleagues to incorporate the innovation with other activities for an even greater impact. The deepest level, renewal, is the level where individuals consider the value of the innovation to make major modifications and to establish higher goals. Both integration and renewal represent advanced levels of implementation of the CCSS. The LoU is an important dimension of this framework for examining the problem being studied because the LoUs provide a model of progression that can be further defined through an IC. This dimension was used in this study to serve as markers along the implementation continuum and to inform data analysis.

Through focusing on well-defined skills across subject areas and grade levels, the CCSS present an opportunity to improve student learning (Chandler-Olcott & Zeleznik, 2013; Kern, 2012; Simpson, 2013); however, the success of the CCSS will be determined by successful implementation (Wallace et al., 2008). Effective implementation occurs along a continuum (Toplis et al., 2010). The continuum can be conceptualized as moving

from exploration and adoption to installation, then to initial implementation to full implementation, and finally to innovation and sustainability (Wallace et al., 2008).

Current Research

To locate current literature, I conducted multiple Boolean searches in Academic Search Complete, Education Research Complete, Education Researcher Starters, ERIC, ProQuest Central, and Teacher Reference Center. The search words included *Common Core State Standards*, *implementation*, *implementing curriculum*, *implementing standards*, *concerns-based adoption model*, *stages of concern*, *levels of use*, *innovation configuration*, and *understanding by design*.

The use of the CBAM in the literature supports its selection as the conceptual framework for this study on how teachers progress through the implementation process. The individual dimensions of CBAM are used for various purposes by researchers. In a descriptive survey research study examining the implementation of content area reading strategies by agriscience teachers, results from the SoC Questionnaire completed by 371 teachers led to the conclusion that more clarity was needed in the implementation process (Warner & Myers, 2011). As a result, an IC was designed and implemented for the teachers responsible for implementing the literacy program. The SoCs were used in another study about teachers' attitudes towards agriculture, where the researchers found that professional development needed to be more focused on teachers' needs (Bellah & Dyer, 2009). Another recent study utilizing CBAM described the role of an IC in guiding data collection and to rate the fidelity of implementation in each teacher's classroom (Feldman, Feighan, Kirtcheva, & Heeren, 2012). In another study, researchers

considered the implementation of a national science curriculum in England and concluded that implementation existed on a continuum from very limited to creative, which also supports CBAM as the conceptual framework (Toplis et al., 2010).

Implementers. The CBAM is based on the roles of all individuals in implementing the innovation. This emphasis on individuals is supported in the literature. Teachers, students, and parents are all identified as crucial to the implementation of classroom innovations in both qualitative and quantitative studies (Barma & Bader, 2013; Buzhardt, Greenwood, Abbott, & Tapia, 2006; de Segovia & Hardison, 2009; Johnson, 2012; Rulison, 2012) and can be considered members of an implementation group; each group can be considered partners in the implementation process with unique roles (Heil, 2012; Kindall, 2013). The attitude of teachers towards the innovation along with their knowledge and learning can be either drivers or barriers of implementation (Jones, 2009). A study utilizing both observations and interviews to examine the implementation of policy found the support of implementers, also known as buy-in, is especially important (de Segovia & Hardison, 2009). Another study found, through using multiple sites, that the attitude and support of an adopter's peer group also has an effect on the implementation process (Towndrow et al., 2010). Support of all members in the implementation group builds the motivation necessary to lead them through the challenges presented by the implementation process (Klieger & Yakobovitch, 2012). Researchers conducting a longitudinal case study on instructional coaches found the relationship between coaches and teachers to be a powerful tool in the implementation process (Coburn & Woulfin, 2012). Another case study examining the implementation of

a curriculum also found the work of instructional coaches in supporting teachers to be another potential driver in the implementation process (Korkeamaki & Dreher, 2012).

The role of teachers is of particular importance in decision making (de Segovia & Hardison, 2009). Teachers are the primary agents of change in implementing standards for student learning (Stuart, Rinaldi, & Higgins-Averill, 2011). Research supports providing teachers with autonomy in making innovations work for their students (Klieger & Yakobovitch, 2012). These individual decisions will also add to the variations in the way the implementation will appear in practice. The benefits for students at all levels, including special education students and gifted students, will be determined by the decisions teachers and school leaders make in the implementation of the standards (Constable, Grossi, Moniz, & Ryan, 2013; Fraser, 2013; McLaughlin & Overturf, 2012; VanTassel-Baska, 2012).

Components of CCSS implementation. The standards are the innovation. An exploratory Delphi study found standards for student learning to provide the foundation for planning for instruction through defining success (York & Ertmer, 2011). Teachers incorporate what they know about student readiness, interest, and learning styles in writing objectives to support students in reaching the standards (Jones, Vermette, & Jones, 2009; Hockett, 2009). The CCSS provide this foundation. The CCSS are more specific than previous student standards because they outline expectations for students in reading, writing, and mathematics at each grade level (NGA Center for Best Practices & CCSSO, 2012). Standards are an important driver of curriculum and student learning

(Childre et al., 2009). Expectations for student learning are directly related to student achievement (Parrish & Stodden, 2009).

Assessments are a component of implementation because assessments are based on the standards and provide evidence demonstrating what students know based on a qualitative study using focus groups (Graff, 2011). Teachers base the assessments on the standards for what students should know or be able to do (Parrish & Stodden, 2009). The decisions teachers make about assessments send messages to students about what is valued (Stoner, Higgins, & Bonilla, 2011). The three types of assessments that are part of the learning process include preassessments, formative assessments, and summative assessments (Kelting-Gibson, 2013). Preassessments provide teachers with an understanding of what students know before instruction begins. This informs teachers of where to meet students based on student needs (Kelting-Gibson, 2013). Formative assessments provide evidence during the learning process to guide instruction, and summative assessments provide evidence after instruction to demonstrate what students learned (Childre et al., 2009; Roskos & Neuman, 2012). Although paper-and-pencil assessments are most common, performance assessments are another way to gather evidence of student learning (Oberg, 2009). Once teachers identify expectations for students, how evidence of meeting these expectations will be collected, and where students are in the process, then teachers plan the instructional activities and how best to sequence those activities to reach the expectations (Childre et al., 2009). Teachers determine whether or not the assessments are aligned with the standards, unit objectives, and the instruction (Parrish & Stodden, 2009).

Planning and sequencing activities are another component of implementation. When planning and sequencing activities for students to achieve the standards, teachers select activities that will promote understanding and lead to active student engagement according to a study utilizing observations of video recordings of lessons and interviews of teachers (Jones, Jones, & Vermette, 2011). Engaging and relevant learning opportunities will yield the most benefit (Avila & Moore, 2012; Pytash & Morgan, 2013). Beginning with an intriguing introduction is important (Jones et al., 2011). Other ways to engage students are through experiential, creative, or problem-based learning (Malik, 2009). Providing feedback to students and using nonlinguistic representations are among other research-based strategies for instruction (Fabry, 2010). Some activities to promote engagement and understanding include creating bumper stickers, newscasts, or want ads (Jones et al., 2011). These strategies can be incorporated through cooperative learning, independent practice, or homework (Fabry, 2010). Incorporating multiple standards in lessons is another high-yield strategy (Chandler-Olcott & Zeleznik, 2013). Part of planning instructional activities includes evaluating the lesson materials that support the selected instructional activities. These evaluations of materials are based on the relevance to the instructional activity and lesson objective, appropriateness for the age group, and interest level (Graff, 2011; Rusznyak & Walton, 2011). As teachers implement instructional activities, the results of formative assessments and reflection will guide the process to carry out the plans (Graff, 2011).

Factors affecting implementation. In addition to informing the decision-making process, teacher collaboration can be leveraged to support implementation (Barma &

Bader, 20013; Moceri, Elias, Fishman, Pandina, & Reyes-Portillo, 2012). One of the most effective uses of teacher collaboration in the implementation of innovations is through diagnosing and meeting the needs of teachers relative to professional learning as determined through both a mixed-methods design study and a program evaluation (Bailey, 2010; Coggshall, 2012; Petrie & McGee, 2012). Implementing innovations usually requires increased capacity, and one way of increasing teachers' capacity is through professional learning (Johnson, 2012). It is important to note whether the capacity needs are related to content or pedagogy, according to a survey of teachers on the CCSS (Bostic & Matney, 2013).

Professional development for building capacity can come in various forms. Some teachers participate in Twitter chats to share best practices and resources for implementing the CCSS (McLaughlin & Overturf, 2012). Another strategy to build teachers' capacity is video clubs where teachers examine and analyze videos of their teaching and observe student learning in lessons addressing the CCSS. In addition, this strategy can be utilized as teachers collaborate towards the achievement of goals (Barma & Bader, 2013; van Es, 2012). Other job-embedded, peer-oriented methods to increase teacher effectiveness through professional learning include peer planning, peer analysis of student work, mentoring, and study groups (Kose & Lim, 2011).

Based on multiple factors, teachers' needs vary throughout the implementation process (Klieger & Yakobovitch, 2012). One of the primary factors is the progression of implementation. According to a study conducted through surveying 470 teachers in 13 schools multiple times, the needs of teachers vary at different levels of implementation

(Frank, Yong, Penuel, Ellefson, & Porter, 2011). The study found beginning implementers need professional development focused on student learning, intermediate implementers need opportunities to explore, and more advanced implementers need opportunities to collaborate with colleagues. Innovations are implemented at varying rates based on who is responsible for implementing, their level of understanding, their capacity, and resources available (de Segovia & Hardison, 2009). The pace of implementation will vary among teachers (Hord et al., 2006). Faster-paced implementation rates have been linked to greater overall success when other factors are held constant (Buzhardt et al., 2006).

Students are the greatest influence on the work of teachers to plan for implementation (Ricca, 2012). Teachers begin their implementation of the standards with an inventory of students. Knowing the interest and readiness of students supports teachers in selecting appropriate objectives to scaffold students in meeting standards (Childre, Sands, & Pope, 2009; Oberg, 2009). This requires teachers to gain an understanding of where students stand through an initial assessment according to a qualitative study in the form of a historical review (Kelting-Gibson, 2013). This knowledge of students supports the decisions teachers make in the planning process (Childre et al., 2009). In addition to influencing the plans for implementation of the standards, students also influence decisions throughout the learning process as teachers make decisions based on the way students respond to learning activities (Boyd, 2012).

Fidelity of implementation. The fidelity of implementation varies with the individuals responsible for the work and with each individual standard (Resh & Benavot,

2009). Some standards are more challenging than others for teachers to implement (Klieger & Yakobovitch, 2011). In a quantitative study using structural equation modeling to determine the concerns and efficacy beliefs of 151 teachers about a mandated mathematics curriculum, researchers found that the curriculum was not fully implemented 5 years into the process; in classrooms where the curriculum was implemented, variations existed in the degree of implementation (Charalambous & Philippou, 2010). Through surveying 584 teachers, a study using a comparative research design found variations in implementation can be attributed to years of implementation, degree of support, degree of collaboration with colleagues, and professional development (Li, Ni, Li, & Tsoi, 2012). Another study on the implementation of learner-centered pedagogy further complicates research on implementation with findings from a yearlong, qualitative study of two teachers through video analysis and interviews that variations exist in what educators believe and their actual classroom practices (Polly & Hannafin, 2011).

Certain conditions have an influence on the rate and fidelity of implementation of innovations. When teachers are knowledgeable of the change and believe in the innovation, the rate and the fidelity of implementation both increase, according to a study examining implementation through surveying 120 practitioners (Doyle, Logue, & McNamara, 2011). Another study using qualitative analysis of focus group interviews and observations of implementation of Response to Intervention in six middle schools concurred that informing implementers is critical (Sanger, Friedli, Brunken, Snow, & Ritzman, 2012). Enthusiasm for the innovation is also linked to high implementation

according to a sequential mixed methods study of a third grade language arts curriculum and an experimental study on a technology-based, preschool curriculum in 27 classrooms (Azano et al., 2011; Davidson, Fields, & Yang, 2009). Receptivity to coaching also leads to high implementation (Lieber et al., 2009). Teachers with more training, resources, support, and time working with the CCSS are expected to achieve more advanced stages of implementation at a faster pace (Baker, Palmer, & Kerski, 2009; Evenson, Ballard, Lee, & Ammerman, 2009; Lu & Overbaugh, 2009).

Striking the right balance between providing guidance to teachers while also providing them with the independence to implement the innovation increases the rate of progress according to a 4-year, ethnographic case study of the implementation of a mandated curriculum (Bair & Bair, 2011). Another qualitative study using observations and interviews of 26 teachers implementing a curriculum also found that striking the right balance between guidance and independence is important (Shkedi, 2009). Strong learning cultures among teachers and effective leadership drive implementation (Visser, Coenders, Terlouw, & Pieters, 2010; Yan & He, 2012).

Carefully planning timing of implementation of an innovation is another variable policymakers and leaders need to consider (Burgess, Robertson, & Patterson, 2010). When these conditions do not exist, implementation is more challenging. Other conditions have a negative influence on the rate and fidelity of implementation as well. Innovations that are perceived as top-down are more difficult to implement, according to an ethnographic research study of a curriculum reform (Yan & He, 2012).

The likelihood for success increases when implementers continuously and objectively evaluate their progress to track the rate and fidelity of the process (Ferreira, Gruber, & Yarema, 2012; Jones, 2009; Robins & Antrim, 2012). According to a study conducted through surveying 150 schools, having regularly scheduled check-in meetings is a way for leaders and adopters to monitor and measure implementation progress (Moceri et al., 2012). Checking in provides adopters and their leaders with information to gauge the level of success of implementation and opportunities to consider mid-course corrections (Chan, Hsu, Lubornski, & Marsteller, 2011; Couvillon, Bullock, & Gable, 2009). By planning, monitoring, and making improvements to the process along the way, implementers are more likely to achieve success (Russell & Bray, 2013).

As educators proceed in incorporating this massive change, it is vital to understand that the characteristics of the change process include the need, clarity, complexity, quality, and practicality of the innovation (Fullan, 2007). The process can also be influenced by the local context and even external factors; hence it is important that these elements are addressed in the implementation of the CCSS (Fullan, 2007). These factors will influence the progress of the process (Hall & Hord, 2011). A characteristic of the local context is the political will of leaders and the institutional capacity of the state and district, according to a quantitative study of the rigor of standardized state tests (Dahill-Brown & Lavery, 2012). The context is defined in part by the way district leaders interpret, adapt, and communicate the innovation to teachers and leaders (Barley & Wegner, 2010; Drame & Pugach, 2010; Miller, 2010). Leaders guiding implementation influence the process by further defining the context (Rycroft-

Malone et al., 2013). If leaders provide information that yields positive interactions with teachers in the context of the school, then a climate of cooperation among adopters will lead to more successful implementation, according to a qualitative study using interviews and archival documents to research the reactions of groups to new policies (Robbins, 2010). Leaders need ongoing professional learning and support to develop their commitment, according to an in-depth exploratory case study conducted in a district implementing an innovation (Berrett, Murphy, & Sullivan, 2012).

Implications

The literature review revealed a need for research on the implementation of CCSS and implementation in general. The lack of studies on the implementation of the CCSS, paired with the questions educators have as documented by newspaper articles, indicates that the implementation of the CCSS needs to be more clearly defined for teachers to understand what has to change to achieve advanced levels of implementation. Research on implementation in general points to more barriers than drivers. A need for a more comprehensive understanding of implementation exists in the field of education. This study identified both a driver and challenges to implement the CCSS. The resulting professional development project was designed to address some of these challenges and a process to improve implementation (see Appendix A).

Summary

A number of the characteristics of the implementation process undergirded this study, but the main focus was on how teachers progress along the implementation continuum. This project study utilized a qualitative design to examine the progression of

the implementation process of the CCSS based on lessons learned from change theory and implementation science. Using the CBAM as a theoretical framework, this study examined how teachers progress along the implementation continuum. The methodology for studying the problem, a project based on the findings, and a reflection of the entire process are described in the following sections.

Section 2: The Methodology

Design

The research questions were focused on gaining an understanding of how people approach a process, so I used a qualitative study as recommended by Merriam (2009). The study involved collecting descriptive data that were then analyzed to answer the research questions (Bogdan & Biklen, 2007). The overarching research question driving this case study was: How do elementary school teachers and instructional leaders describe teachers' progress along the Common Core State Standards implementation continuum?

The subquestions that assist in answering the overarching question were:

- How do elementary school teachers describe their current status on the implementation continuum?
- How do elementary school teachers describe their experience of progressing from one stage to the next along the implementation continuum?
- How do elementary school instructional leaders describe teachers' experiences in progressing from one stage to the next along the implementation continuum?

I used a multicase study approach to examine how teachers progress in the implementation of the CCSS. The purpose of the study was to understand how elementary school teachers progress along the implementation continuum, so including teachers from multiple schools yielded more information and an opportunity to compare cases through conducting cross-case analyses (Stake, 2006). Participants from various schools were selected to increase variation in the contexts of the participants (Miller,

2010). The cases consisted of 4 of the 23 elementary schools in the district. Selecting between 4 and 10 cases for multicase studies was most productive (Stake, 2006; Stoian & Rialp-Criado, 2010). With fewer than four cases, the interactivity of the cases can be limited (Stake, 2006). Selecting four cases yielded varied information for the study and also allowed time for in-depth study of each case (Stake, 2006; Vernon-Dotson & Floyd, 2012). Increasing the number of cases would have limited the depth of study of each case.

The focus of the study was on the experiences and reflections of educators relative to the implementation process (Stake, 1995). The qualitative data were collected through semistructured interviews of three teachers and an instructional leader from each of the four schools (Merriam, 2009). The rationale for selecting this research design was that the design provided views from multiple sources that led to a holistic view, thereby addressing the need for in-depth information on the CCSS implementation process in the classroom (Stillisano et al., 2011; Yin, 2014). The instructional leaders provided insight into how the contexts differed based on what kind of support teachers are receiving from their schools and what is offered by the school system as a whole during the implementation of the CCSS (Sanger et al., 2012). By asking how teachers progress along the implementation continuum, the research identified which implementation strategies are working and which barriers require added supports to overcome (Stake, 1995).

The research questions required a discovery-oriented design because the purpose of this study was to understand how teachers and their instructional leaders describe their

experience in implementing the standards. More specifically, this was an instrumental study because the cases led to an understanding of how the process of implementation progresses, a process explained by Stake (2006). This study design was the most appropriate in order to answer this question by gaining an understanding of the progress of teachers. The qualitative design provided an opportunity for an in-depth examination of the work of teachers.

Case studies describe and analyze bounded systems (Stake, 2006). In this study, the cases were comprised of four different schools in which individual elementary school teachers were implementing the English language arts CCSS. This reflected maximum variation, and including multiple teachers from four different schools in the study provided the opportunity for deeper understanding through cross-case analysis of the multiple cases, as recommended by Yin (2014) for such a study design. The sample was limited to elementary schools in order to focus the study and allow for greater depth in comparing the cases. This also meant that the case was bound at the elementary school level. The collection of the cases is called the quintain. I analyzed and described the cases individually and then analyzed the cases collectively for the purpose of gaining an understanding of the quintain (Stake, 2006).

The instrumental, multicase study approach was the most effective for this study for multiple reasons. One reason is that "how" questions, like "why" questions, can be answered through case study (Yin, 2014). In this study, questions started out as "how," but as probing occurred, "why" questions were also asked. Another reason is that the focus was on contemporary events where I had no control (Yin, 2014). Studying a

variety of cases led to a better understanding of practical implementation of the CCSS by gaining real-world perspectives (Stake, 1995; Yin 2014). Multiple cases increased the validity and transferability of the study (Bogdan & Biklen, 2007; Merriam, 2009). To the extent possible without placing protection of participants at risk, descriptions of the people, settings, and activities are provided to increase the ability of readers to identify similarities of the cases to other instances to increase transferability, as recommend by Merriam (2009) and Wong (2012). The descriptions also include context and background information as well, as recommended by Yin (2012). For the most part, data were collected and analyzed one case at a time for management purposes, as suggested by Bogdan and Biklen (2007) and Merriam (2009).

The qualitative design was the most appropriate choice for this study because, as Stake (1995) explained of this design, the work of people in their natural contexts is the main interest. Other qualitative strategies would have been less effective than the multicase study selected. Culture emerged in the study as having an influence on the perspectives of teachers; however, ethnography was not the best match because culture was not the primary lens. Grounded theory was not selected because the purpose was to discover or understand teachers' perspectives, not to establish a theory. Critical research was not an appropriate choice either, because the purpose was to understand, not to challenge, as Merriam (2009) described of this type of research. This study did not meet the characteristics of action research or evaluation outlined by Creswell (2012). A quantitative design would have been inappropriate because it seeks to explain causes and effects, make predictions, or identify distributions of variables, as described by Creswell

(2012). These did not match the purpose of this study, which was to understand the perspective of teachers in progressing along the implementation continuum.

Including multiple participants for each of the four different cases in the study allowed for the exploration of rival explanations and provided an opportunity to check for discrepant data and/or discrepant cases (Yin, 2014). This is another advantage of this approach. If discrepant data or a discrepant case were featured in a single case study, the uniqueness would not be apparent (Yin, 2012).

The strengths of this design outweigh these limitations. The advantage of this study is that it provides insight into how a process was approached (Stake, 1995; Yin, 2014). The multicase study approach was conducive to focusing on understanding how people approach the implementation process (Merriam, 2009; Stake, 1995). It allowed for working with people and ideas. Finally, using four cases and interviewing three teachers and one instructional leader for each case increased opportunities to triangulate the data. The follow-up questions and insightfulness of the interviewees created variety in the data collected (Powell et al., 2013; Yin, 2014).

Participants

I planned to use the purposive sampling method to select the participants who had the most to offer the study in terms of opportunities for diverse perspectives (Bohanon et al., 2012; Merriam, 2009; Powell et al., 2013; Stillisano et al., 2011). However, locating willing participants was more of a challenge than anticipated, so I used convenience sampling instead. To address the need for relevance to the quintain, each participant was an elementary school teacher or instructional leader responsible for implementing the

English language arts CCSS in third through fifth grades (Stake, 2006). This narrow focus limited the participant pool. The interest in participating in the study matched the study specifications after multiple requests were sent, so plans for maximum variation selection based on ranges in experiences and implementation stages were not necessary. Three teachers and one instructional leader in four schools participated in the study. Demographics of the teachers are provided in Table 1, and demographics of the instructional leaders are in Table 2.

Table 1

Teacher Demographics

Participant	**School**	**Years of Experience**	**Grade(s)**	**Subject(s)**
Teacher 1	A	4	4	English language arts
Teacher 2	A	.89	3	English language arts
Teacher 3	A	.22	4 and 5	English language arts
Teacher 4	B	11	3	all subjects
Teacher 5	B	6	4	all subjects
Teacher 6	B	6	5	all subjects
Teacher 7	C	3	3	all subjects
Teacher 8	C	16	3	all subjects
Teacher 9	C	16	3	all subjects
Teacher 10	D	4	4	English languages arts &

				social studies
Teacher 11	D	.56	3	English language arts
Teacher 12	D	4	4	English languages arts & social studies

Table 2

Leader Demographics

Participant	**Position**	**Years in current position**	**Total years in education leadership**	**Total years in education**
Leader A	Instructional coach	2	4	11
Leader B	Instructional coach	.03	2	11
Leader C	Principal	5	7.5	19
Leader D	Instructional coach	2	16	34

Participant Access

The superintendent of the school district granted permission for the study to be conducted after I provided him with a cover letter explaining the purpose of the study and the measures to protect the participants (Lodico et al., 2010). In addition to permission for conducting the study, the superintendent provided a list of elementary school principals and their contact information. I sent an e-mail request to the 23 elementary

school principals in the district explaining the study so that principals understood the purpose of the study and the protection that was afforded to the participants. Follow-up e-mails were also sent to principals. The 23 schools were narrowed to seven when only seven principals granted written permission for their school to be considered for the study. I had planned for the main criteria for selection to be the opportunity for learning the case presented and for balance and variety the cases offered to be the secondary criteria, as recommended by Stake (1995) and Yin (2014). Factors such as school performance, student demographics, and geographic location were going to be considered in selecting the four schools to participate. However, this was not necessary. The seven schools were further narrowed because the names and contact information of the potential participants were only provided by principals of five schools. The five schools were narrowed to the four schools needed for the study because only four of the schools had enough educators interested in participating.

The arrangements to interview the teachers and an instructional leader at each school were made after IRB approval of the study was granted. Third through fifth grade teachers and the instructional leaders were contacted via e-mail. The e-mail included a cover letter, a consent form that contained the purpose of the study and the measures to protect the participants, and a questionnaire to collect information in case more than one instructional leader and/or more than three teachers from each school volunteered. The questionnaire was not needed, because the number of participants who volunteered at each school matched the number that was needed for the study.

To establish a research-participant working relationship, I contacted the participants individually to introduce myself, discuss the study, and answer any questions they had about the study. I also informed participants that they could discontinue participation at any time. There were no concerns with conflict of interest because I did not have any past or current roles at the settings or professional relationships with the participants, neither did I work in the school district and have never worked at an elementary school. Through multiple roles as an educator including 2010 State Teacher of the Year, an elected member of the state board of education, and as an employee of the CCSSO, I have developed biases. The focus of this study was not on the merit of the standards, but instead on how individuals implement an innovation. This study was designed to examine implementation, which is an area of genuine interest for me. The deeper understanding of how individuals approach the change process I developed through this study will serve me as an education leader.

The initial invitation to participate was sent to the participant pool followed by a second request 5 days later. A third request was delivered to the schools via hard copies in envelopes addressed to individuals 1 week after the initial requests. The fourth invitation was made through telephone calls to each teacher at the schools. Some participants responded after the first request. Securing other participants required repeated requests.

Ethical Protection of Participants

The measures that were taken for ethical protection of the participants included maintaining confidentiality, obtaining informed consent, and protecting the participants

from harm (Creswell, 2009). Maintaining confidentiality was achieved through creating codes to shield the names of people and places from others (Bogdan & Biklen, 2007). The codes were used in the notes for all of the people and places (Evans, Whitehouse & Gooch, 2012). Also, pseudonyms are used in the written report for names of people and places (Wong, 2012). Access to the data was limited to the researcher, the supervising faculty members, and the transcriber. Potentially identifying links were not shared with anyone. The link between study code and direct identifiers will be retained after the data collection is complete, solely for the purpose of identifying those participants who indicate that they want their data withdrawn. Informed consent was obtained from the participants through a form (Bogdan & Biklen, 2007). The consent form included statements concerning non-disclosure of the identity and all of the researcher's relevant roles, an explanation of the purpose of the research, a description of the procedures, expected duration of the subject's participation, statement of voluntary participation, statement that refusing or discontinuing participation involves no penalty, description of the foreseeable risks or discomforts, description of anticipated benefits to participants or others, information on compensation for participation, description of confidentiality measures, information about how to contact the researcher, contact information for a Walden University representative for questions about the rights of participants, statement that the participant may keep a copy of the informed consent form, and all potential conflicts of interest (Bogdan & Biklen, 2007; Creswell, 2009). The consent form and all documentation were in a language understandable to the participants. Participants were not asked to waive their legal rights.

Data Collection

Data were collected through semi-structured interviews of teachers and instructional leaders because of the nature of the research question (Yin, 2012). Collecting data through interviews is a common method for case studies (Bogdan & Biklen, 2007). The semi-structured interviews provided opportunities to learn from the participants (Stake, 1995). This data collection choice matched the needs of the study because of the benefits it offered in understanding what teachers and instructional leaders think about implementation and exploring the ideas they presented (Merriam, 2009). The structure was provided through interview guides created for this study that consisted of a list of questions. The interview questions were derived from the research question and subquestions (Cho & Eberhard, 2013). One interview guide was used for the instructional leaders (see Appendix G). A different interview guide was used for the interviews with teachers (see Appendix H). Another benefit of using semi-structured interviews is the prepared questions outlined in the interview guides provide the opportunity to collect comparable qualitative data across each interview (Lodico et al., 2010). Using this collection method with three teachers and one instructional leader in each of the four cases provided the opportunity to triangulate the data (Bogdan & Biklen, 2007). Triangulation increased the credibility and transferability of the study (Stake, 2006). As stated before, there was variety in the data collected through the follow-up questions to different perspectives offered by the participants (Powell et al., 2013; Yin, 2014).

The data from the interviews were collected using an audio-recording device and typed notes (Merriam, 2009). Both the audio recordings and the typed notes were password protected (Bogdan & Biklen, 2007). The audio recordings were professionally transcribed after each interview by an online transcription service. A confidentiality agreement was secured with the transcription service and provided in the IRB application. The audio files of the interviews were uploaded through a secure portal after each interview. Each transcript was made available through the secure portal approximately three days after being uploaded. Transcripts of the recorded interviews were printed and then used to prepare data for analysis. The notes were typed during the interviews using the interview guides created with a word processing program and were saved as separate files. The notes were typed as a backup to the audio recordings. The typed notes were only referenced when information was difficult to locate in the printed transcripts.

The teacher interviews were scheduled to last for 1 hour. Interviews conducted later in the process lasted closer to half an hour. All but one of the teacher interviews took place in the teachers' classrooms. One was held in a meeting room at a public library because the interview was held during the weekend. The interviews of the instructional leaders were held in their offices. During the interviews, I listened, took notes, and asked probing questions to gain an understanding of the interviewee's experiences regarding the implementation continuum. I was organized and was open to unexpected clues (Stake, 1995). Issues were identified and tracked throughout the study so that I could ask questions and observe how they were handled across the cases (Stake,

1995). For instance, one participant raised an issue that was not anticipated about the standards only being available online. I was able to ask subsequent participants about this issue as the study continued. Member checks were conducted after the interviews via e-mail (Bogdan & Biklen, 2007; Jones, 2009).

Data Analysis

Data analysis was simultaneously conducted as data were collected so that initial analysis could inform other data collection (Merriam, 2009; Miller, 2010). Data analysis began as the transcripts became available with what is referred to as playing with the data through multiple readings of the transcripts and making notes in the margins (Yin, 2014). The next steps of the process mirrored the open coding followed by axial coding approach used in a multicase study of academic success (Robinson and Werblow, 2012). Identified categories were noted and a color-coding process of the printed transcripts using highlighters was initiated using open coding (Eun Kyung, 2011). Categorical aggregation of the data was utilized (Stake, 1995). Once the same codes kept reoccurring, I created a typed matrix using the codes as categories to organize the data from the transcripts into one file for each case. The codes led to the identification of themes in the data (Miller, 2010). Using spreadsheet software allowed for color-coding and electronic sorting of the data. The analysis file grew to include over 10 spreadsheets as I deconstructed and reassembled the data in various ways.

Once the matrix was complete for each case, I began the within-case analysis for that case. The within-case analysis consisted of separately analyzing each case's data (Merriam, 2009). I used the matrix and the transcripts for each case to answer each

research subquestion based on each teacher's description of their implementation of the innovation according to the CBAM, answers to the interview questions, and participants' demographics. Throughout the data analysis, themes emerged through repeated patterns as the data were matched to the relevant research subquestions. Part of the data analysis included creating diagrams to display the data, including the teachers' descriptions of their implementation status based on the SoC, LoU, and the reoccurring themes (Stake, 2006; Yin, 2014).

The cross-case analysis consisted of comparing the data that emerged from each of the four cases to identify commonalities (Bainger, 2010; Stake, 2006). I compiled the teachers' implementation statuses into one figure and then identified similarities and differences among teachers at various points of implementation. I compiled the themes from the three subquestions for each case into one diagram in my research notes. The themes that emerged are discussed below. The themes that emerged in at least three cases are under the heading of cross-case themes. The themes that emerged in one or two cases are under the heading of case-specific themes. Conclusions were drawn for each of the research subquestions and were used to determine the nature of the project to be created as part of this study.

A number of measures were taken in order to ensure the research's accuracy and credibility. A section of the research log documented epoché. Personal opinions of the various activities and ideas encountered during the study were recorded in this section (Merriam, 2009). I added to this section during data collection and data analysis and labeled the entries accordingly so that these entries could be connected back to the data if

necessary. Member checks were conducted so participants could clarify any inaccuracies in the transcripts and to elaborate where necessary (Jones, 2009; Vernon-Dotson & Floyd, 2012). I examined the feedback to determine if and how to revise the analysis to reflect the participants' input. Making final decisions about what and how to include the information in the report was at the researcher's discretion (Stake, 1995). The data were triangulated throughout the process to create a chain of evidence to support the themes (Merriam, 2009; Stoian & Rialp-Criado, 2010). Developing a database of evidence increased reliability (Stillisano et al., 2011; Yin, 2014). Only the themes with a chain of evidence are presented in the report. I discussed the study with six peers in various roles throughout the data collection and analysis phase for peer debriefing (Merriam, 2009). These conversations served as an opportunity to discuss the progress of the study and clarify thinking.

Cross-Case Themes

Theme 1: Teacher Collaboration Drives Implementation Progress

Teacher collaboration as driving implementation progress emerged as a theme in School B, School C, and School D. Teachers and their instructional leaders attributed implementation progress to the positive outcomes of teachers working together to overcome barriers. In addition to teacher collaboration serving as a driver of implementation, it is a component of the upper SoC and higher LoU of the CBAM (Hall et al., 2008; George et al., 2013). Most of the collaboration described by the participants took place between individuals teaching the same grade level at the same school. However, teachers also collaborated with others at their school and even with teachers at

other schools. An advantage for teachers in this study was the district structure to support teacher collaboration. All schools had time for teachers to meet in professional learning communities once a week. The role of collaboration may have been different if the district structure would not have been in place.

In School B, all of the teachers worked with their grade-level teams to plan lessons and align existing resources to the standards. School Leader B described teacher collaboration as the most effective tool in the implementation process. She stated, "Our biggest resources are each other." Teacher 5 contributed the success she had achieved in implementing the standards to collaborating with her grade-level team. She explained, "We use our break every single day. Our only 30 minute break, we use it to plan everyday together." Teacher 6 also worked with her grade-level team and was also selected to serve as a teacher leader for the state. She said, "I think teachers learn best from teachers." Teacher 4 and her partner teacher collaborated online with "teachers from all over the nation." She said, "We're using guides that they– other teachers– have created." This collaborative work drove the implementation progress.

In School C, teachers and leaders shared the responsibility for developing and facilitating the weekly professional learning community meetings. Teacher 8 described the role of teacher collaboration, "It's probably the biggest [driver], for me." The teachers who participated in the study from School C all taught the same grade and collaborated together. They shared lesson plans through an electronic system. Teacher 9 said, "We all kind of split it up… We're able to look at the plans, and then you can tweak it to make it fit your group of kids." The teachers also collaborated with teachers in other

grade levels. Teacher 8 explained, "It may be in the work room, it may be in a faculty meeting, it's just at that point it's just talking across the grade levels." Teacher 7 also collaborated with teachers across the country by accessing materials posted online. She said, "That's like my godsend." Teachers in School C worked together to support each other in implementation.

In addition to the time reserved for teacher collaboration, the teachers interviewed in School D were departmentalized. Instead of teaching all of the subjects, teachers taught the same subjects multiple times a day. The teachers were paired with another teacher who taught the same grade level and subjects. Teacher 10 and Teacher 12 worked as partners. They both referenced the advantages of working with each other. Teacher 12 said, "I need my partner teacher. She is my support. She's my lifeline, and our facilitator is excellent." Teacher 11 identified collaboration as a main driver also.

Theme 1 did not emerge in School A. This theme was referenced by one of the participants; however, there was not enough evidence to support the theme of teacher collaboration driving implementation progress. In School A only one of the four themes that emerged across more than two cases was present. This case contained Teacher 1, the teacher who was the most advanced along the implementation continuum and two other teachers, Teacher 2 and Teacher 3, who were the least advanced. Teacher 1 was prepared to teach the standards through her educator preparation program and in-service professional development provided by another district. The teachers who were the least advanced had the fewest years of teaching experience. One of the participants in the study from this school had only been teaching for weeks when she was interviewed.

More research would need to be conducted in the school to determine the extent of discrepancy between this case and the others. An extension of the research could include an in-depth study involving more participants from this school.

Theme 2: Teachers Need Training to Make the Required Instructional Shifts

Teachers needing training to make the required instructional shifts necessary to teach the standards emerged as a theme in School A, School C, and School D. Both initial preparation and professional development were discussed as components of training. In order to teach the standards, teachers needed high-quality initial preparation and professional development. Effective training was identified as a driver of implementation by the teachers with the highest LoU and as a need by the teachers with the lowest LoU. Half of the participants called for more preparation in how to teach the standards. Four participants suggested modeling or demonstrations by other teachers as a possible avenue for achieving this training.

Two extremes emerged in School A. Teacher 1 was the farthest along in implementation in the study. She described her educator preparation program and her professional development activities to be effective. According to Teacher 1, the previous district "realized that in order to meet the standards, we had to change how we taught." Teacher 1 was concerned that teachers were not being prepared to teach the standards. She described her preparation:

> Watch, this is the old way we used to teach this poem. Now watch. This is the new way to teach this poem. And they would make us do it. They would make

us write. They would make us annotate. And so, we saw how much deeper we taught about that text because we experienced it. I was taught how to teach it. The teachers in the district did not have the same in-service professional development that Teacher 1 received before transferring into the district. Teacher 3 believed that her teacher preparation program should have better prepared her to support students in achieving the standards, especially students with large gaps in knowledge and skill. She explained that in her preparation program she was only expected to use the standards to match them to pre-selected activities. She was not taught how to support students in achieving the standards.

Most of the training discussed by School C participants was professional development in the form of the weekly professional learning community meetings. Teachers relied on each other to make up for a lack of preparation to teach the standards. All of the teachers described how they worked together and with their instructional coach and school leaders to understand what the standards require of their students. Teacher 9 said, "This year it's much better because I had a year to actually basically get my feet wet with as far as how it needs to be taught." Teacher 7 described how her preparation program prepared her to create, adjust, and evaluate curriculum. She said, "They introduced us to it so that whenever we went out into the workforce, we wouldn't be completely blindsided."

The teachers in School D were interested in training to determine if their instructional practices were aligned with the expectations of the standards. Teacher 10 explained, "Teachers implemented it on our own and just assumed what it's supposed to

be. . . The way that I teach it now is what I think it's supposed to be." Teacher 10 would like models of what teaching the standards looks like in practice. She said:

> I think we just could've gotten more guidance, especially with the ELA. I know math got a lot of guidance but with English language arts and writing, we didn't get as much support so for that reason, and I'm having to do a lot of the research for us. So I can't say another teacher, even at third grade level knows the same thing I know because they may not have time to do the research. I'm up at 11 and, you know, I'm up researching.

Teacher 11 said, "I feel like some very enriched guided reading groups would be very beneficial to watch just because there are so many different levels of guided reading groups." Teacher 11 would also "like training before school starts as far as this is what we expect out of your grade level by midway through the year."

Theme 2 did not emerge in School B. Connections can be made to the references participants made to collaboration and professional development; however, sufficient evidence to support theme 2 in School B through triangulation was not found. This may be related to the years of experience of the participants. All of the participants from School B had at least 6 years of experience.

Theme 3: Common Processes to Monitor Implementation Progress are a Need

The need for common processes to monitor implementation progress emerged as a theme in School B, School C, and School D. Monitoring progress of implementation is also a component of the SoC and LoU beginning with the mid-stages and mid-levels of the CBAM (Hall et al., 2008; George et al., 2013). This is an area where participants

needed more support. Teachers developed their own strategies to monitor implementation progress in the absence of tools to support their work. This theme did not emerge in School A. The absence of this theme in a case further supports this as a need. Half of the participants identified student assessment data as their only measure. One-fourth of the teachers used a list of the standards to keep track of when they addressed each standard. These lists do not track the quality of the implementation. One of the teachers who used a checklist also considered student engagement to monitor the quality of implementation. Lesson plans at all of the schools were checked by school leaders, but teachers did not receive feedback specific to implementation of the CCSS on their lesson plans. Observations of classrooms were identified by two instructional leaders as opportunities to monitor implementation, but the informal observation forms for leaders were not updated to reflect varying degrees of implementation. Three of the teachers and two of the instructional leaders said they did not have any tools to monitor implementation.

Teachers in School B tracked coverage of the standards but not the quality of coverage. Teacher 4 used a chart with "kid-friendly" language to track whether or not standards were covered. Teacher 6 used a self-created spreadsheet to monitor when and how many times standards were covered. She explained:

> I really wanted to be able to monitor that because sometimes you do let the standards that you don't think that are as important you let them fall through the crack or you wait until a later date to get to them. If there's a way I can kind of squeeze it in, you know, I want to squeeze it in, but there are some that I want to

> keep coming back to repeatedly. I always want to include them throughout the year, so I just did it as a way to monitor what I teach throughout the year.

Teacher 6 also relied on student test data to track progress. Her students' proficiency levels increased 15 percentage points during the first year of full implementation. Teacher 5 relied on feedback from school leaders on her lesson plans. She said, "I figure that if there is nothing there, then I'm doing ok."

Teachers in School C used student assessment data to monitor progress and determine what they needed to do to improve the implementation of the standards. Teacher 7 monitored implementation of the standards in her classroom with student pre- and post-tests. She said, "We take a pre-test. I teach. And then we take a post-test, and we see how much we grow." This allowed Teacher 7 to reflect upon what went well and what she needed to do in the future to support students. Teacher 8 and Teacher 9 also relied on student assessments to measure implementation progress. Teacher 9 said:

> I'll go through my grades, and I'll look at those students that have Ds or Fs on the weekly test because that's how I'm able to determine if they're going to be in my low group, or my high, or my medium group.

Teacher 9 then taught students in small groups based on students' needs.

The tools for monitoring implementation progress in School D were varied or did not exist. To monitor implementation, Teacher 10 reflected on the lesson cycle based on test results to determine what changes were needed. Teacher 10 wanted the district to provide tools for self-monitoring of implementation. She explained, "I wouldn't want someone coming in and saying, 'Well, that's not it. That's not it.' I'd like to self-

monitor and gain my confidence first." Teacher 11 identified formal observations that occur twice a year and occasional walk-throughs as the only opportunities to get feedback on her implementation of the standards. Teacher 12 did not know of any tools to monitor implementation.

Theme 4: Aligned Resources are a Need

Aligned resources are a need emerged as another theme in School B, School C, and School D. The participants repeatedly pointed to the lack of resources aligned to the standards as a barrier. Some of the participants identified strategies they had employed to overcome this barrier. This theme did not emerge in School A because of a lack of evidence, but the issue was raised.

The participants in School B worked to overcome the barrier but described the challenges it created. Teacher 5 felt caught between the district and parents in regards to the lack of books aligned to the standards. She shared:

> It's just difficult when parents come and question, and I don't want our school to look bad and I don't want our district to look bad. But it's a difficult question to answer why my child doesn't have a book. And I don't only want them to have open book tests, you know, I want them to have to study for something and – so that's the biggest thing.

Leader B said, "I think our teachers are working triple time to try and align something without having the proper resources." Teacher 4 used trade books as a mitigating strategy. She still needed assessments tied to the standards and more trade books.

All of the teachers in School C wanted the district to provide aligned resources. Teacher 7 estimated her online purchases of materials created by other teachers to be approximately $200. She discussed how not having the materials listed on the curriculum map was a barrier. Teacher 8 used old materials because the district had not provided resources for implementing the CCSS. Teacher 9 used a combination of resources she found online and old resources as her mitigating strategy for the lack of aligned resources. Teacher 9 said, "They gave us different binders to use… we just don't have the resources to go with it."

Participants in School D pointed to the same issues. According to Teacher 11, the district said, "We have no supplies and we probably won't have any for you." This was a barrier for teachers. Teacher 10 and Teacher 12 overcame this barrier by supplementing available material with resources they found online. Teacher 12 had more resources in her previous district where teachers also had opportunities to inform district decisions about which resources to purchase. Teacher 12 said, "At one point we had to read some books, and we didn't have them at first. They said they were going to buy them for us, and then they only bought some of them." Teacher 11 and her partner were using the materials they had for previous student standards. She said, "I've actually seen a Common Core book in a private school that seemed great. Why don't we just get these books?"

Case-Specific Themes

Theme 5: Practice Time Impacts Implementation Progress

Practice time as impacting implementation progress emerged as a theme in School A and School B. Gaining experiences with teaching the standards through repeated practice over time had a positive impact on implementation. Teacher 1 was the farthest along in implementation. She had more time to implement the standards than the other teachers at her school because she has more years of teaching experience and the district where she previously taught began implementing the standards earlier than the district in the study. This additional time allowed her more practice in implementing the standards. After time to practice, Teacher 2 was ready to take the lead in implementing the standards. She explained, "I'm not waiting for somebody across the hall to do it." As a first year teacher, Teacher 3 was just beginning to practice implementing the standards. Teacher 3 said, "I just try to be creative and try to think about what my students in this class need from me in order to learn it, to master it, and to be able to remember for the rest of their life." Teacher 4 said, "Over time, as I've taught them [CCSS] and understood how to teach them, it's more of a positive feel about them." Teacher 5 explained, "You get better with time. . . This year I'm much more confident in my teaching. I know exactly what's coming next. I know what they should know coming in." Teacher 6 attributed her progress to the time she has spent preparing for and actually implementing the standards. She responded to a question about how she had progressed along the implementation continuum by saying, "With me growing and really studying and having to learn myself the expectations of it." Teachers became more proficient in teaching the standards when they had opportunities to practice over time.

Theme 6: Teachers Need Clarity in Implementation Goals and Plans

Teachers needing clarity in implementation goals and plans emerged as a theme in School A and School D. In order to achieve advanced levels of implementation, teachers need to know what they are expected to do, what the indicators of success will include, when they are expected to achieve specific milestones, and what support they will have to achieve their goals. When Teacher 1 transferred from another district, she asked, "What's our plan for implementing Common Core?" Teacher 1 was told, "We don't have one yet." Teacher 2 wanted the district to provide the standards in a "kid-friendly" language and the sequence in which she should teach them. Teacher 3 explained, "I don't know how to explain it [CCSS] to, you know, other people or parents but I'm having to do that now." Teacher 3 was also trying to figure out the best way to sequence the standards. She explained, "I try to do it the best that I can as far as I know." Not only did all of the teachers in School D want clarity of expectations from the districts, they wanted the information in advance. Teachers explained that they used time during the summer to prepare for the year. Teacher 12 said, "It's kind of chaotic. . . Here I am kind of like scrounging up stuff. . . I wish this would be more organized." Teacher 11 said, "I know I have seen confusion of what needs to be taught at what time in the year." According to Leader D, "It has been more of a frenzy of implementing programs than implementing standards." The teachers needed the district to create a stronger focus on implementing the standards among teachers and instructional leaders by providing clarity in implementation goals and plans.

Theme 7: Teachers' Peers Influence Their Implementation Decisions

Teachers' peers influencing their implementation decisions emerged as a theme in School B. The teachers in School B were all at the same place along the implementation continuum, but they differed in their approach to implementing the standards. Peer influence was a major factor in the decisions that the teachers made in School B. Each teacher took the same approach as their grade-level peers. Teacher 4 exercised autonomy in making curricular decisions. Teacher 5 closely followed the curriculum map, and Teacher 6 followed the map but planned to decide what to do in the future based on the results of the standardized assessments. When asked if she would follow the curriculum map if her grade-level peers decided not to, Teacher 6 said, "Then I would probably not." Teacher 4 explained, "My co-worker and I made a collective decision that we can't rely on the maps that are given to us, so we pulled resources online from other states." Teacher 5 shared, "Our grade level really works together in giving each other ideas." This theme emerged because of the similarities in implementation progress and differences in teachers' approaches in School B. Targeted questions would be necessary to identify this theme in other schools.

Theme 8: Gaps in Student Knowledge Present Implementation Challenges

Gaps in student knowledge presenting implementation challenges emerged as a theme in School C. This issue was raised by participants in other schools, but it did not emerge as a theme in the other schools. Teacher 8 believed the CCSS are "too advanced for some of the students." Teacher 9 explained, "Because with those standards I find that they're very high level, like those students that are not as strong in a subject are the ones that are really having a hard time." Teacher 9 utilized small group instruction to support

struggling students. These gaps began to close over time. Teacher 7 observed a difference in students' readiness for the standards from the first year of implementation to the second year. She said, "They have a background of it from last year." Teacher 9 agreed explaining, "And this year I find that the kids have a better understanding but it can also be due to last year they had that same curriculum." This challenge required teachers to identify and incorporate mitigating strategies to support students. The gaps began to close over time.

Findings by Research Subquestions

Research Subquestion 1: How do elementary school teachers describe their current status on the implementation continuum?

Themes 2, 4, 6, 7, and 8 emerged as common themes in the analysis of the responses to Subquestion 1 among the teachers when examining their status along the implementation continuum. The themes are: teachers need training to make the required instructional shifts, aligned resources are a need, teachers need clarity in implementation goals and plans, teachers' peers influence their implementation decisions, and gaps in student knowledge present implementation challenges. Each of these themes, except Theme 7, can be categorized as barriers to implementation. The identification of barriers fit with Subquestion 1 relative to subquestions 2 and 3. Subquestions 2 and 3 focused on what led to progress. The status of teachers along the implementation continuum was affected by the themes that emerged in analysis to the responses for this subquestion. These findings are important because teachers and leaders can focus their attention on identifying and incorporating mitigating strategies to address these barriers.

In addition to raising the factors that hinder progress, the responses to Subquestion 1 provided an overall picture of the status of implementation. The answers to the first subquestion were based on how each teacher described their implementation of the innovation according to the SoC and LoU of the CBAM. The status of each teacher is detailed below. The teachers' needs are described in the interpretation of findings. The implementation statuses of the majority of teachers in the study were clustered together in Figure 1. Teacher 3 and Teacher 11 had not made much progress in implementing the standards. Teacher 1 was advanced compared to the others in the study. Teacher 1 and Teacher 7, who were at more advanced stages than the other participants, both graduated from the same preparation program in the last 5 years and described their preparation as high-quality. All five of the more advanced teachers (Teachers 1, 7, 4, 5, and 6) expressed a commitment to the CCSS. Teacher 3 and Teacher 11 were at the beginning of the implementation continuum. They were both new teachers who attended the same preparation program.

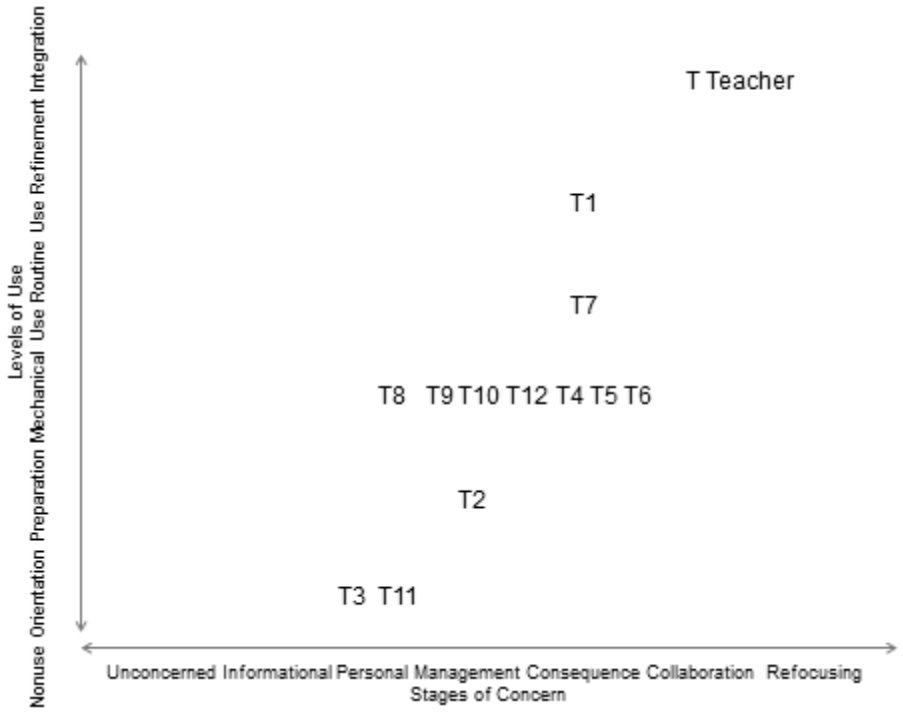

Figure 1. SoC and LoU.

LoU Orientation. Teacher 3 described herself to be at self stage 2 of the SoC and level I or orientation of the LoU. Within the self stage, Teacher 3 was at the personal stage. She was a first year teacher and believed that her preparation program "was not as much as it should have been" to prepare her to teach the CCSS. She said, the standards "weren't really explained…I'm still learning what it is and how it works." She was also working to sequence the standards in a way that would build a foundation for her students. When asked what she would focus on after she sequences the standards, Teacher 3 explained:

> Honestly, I haven't even gotten to that thought yet… As a first year teacher, it's overwhelming. Like you know it's going to be overwhelming. Your first year is going to be your hardest, but you realize how much you weren't prepared for.

When asked what support she needed to implement the standards, Teacher 3 said, "I haven't figured it out." However, she did say, "I think school should prepare you more." Teacher 3 needed the district to provide her with support because she had not received the preparation she needed to be successful in the classroom.

Teacher 11 described herself to be at the personal stage of the SoC and level I or orientation level of the LoU. Teacher 11 had a positive introduction to the standards by her university professors and was not familiar with the previous standards to compare the two. She said, "I don't know any different." Teacher 11 was just becoming familiar with the standards. She shared:

> If I have a question about the standards, I'm going to ask my instructional strategist because it's so confusing. Which ones am I using? What did we get? What didn't we get? I don't reference mine [standards] at all.

Teacher 11 worked with a partner and relies on the district curriculum map from the previous year to guide their implementation. Teacher 11 explained:

> We're basically doing what we did last year. We were told we were doing a different program, but we don't have any materials nor did we get any training on this other program that we were supposed to be doing. And this program is nothing like what we did – we've been doing so, we can't use our books… So, we can't do that because we don't have the materials. We have no choice but to use what we have… I mean that's what we were doing two days before school started… We just pulled the maps we followed last year and started planning.

Following instruction, Teacher 11 utilized assessments to check for student understanding. Teacher 11 was not clear about what standards she was using. She based her instruction on the materials provided by the district the previous year.

LoU Preparation. Teacher 2 described herself to be at the task stage of the SoC and level II or preparation level of the LoU. She explained that she was focused on ordering the standards in the sequence they should be taught. She said, "Once I get them all ordered then I would like to take it and put it into the kid-friendly language and do the checklist." The previous year was her first year of teaching, but she started in the middle of the year with what she described as "a very challenging group." Teacher 2 described the differences between the current and the previous years:

> I didn't really realize it until this year. I actually get the chance to teach, so I am loving that I actually get to teach. They are learning stuff, and that's exciting. I am not referring [to the office] or baby sitting or taking people out of desks or from under desks or off of desks.

During the previous year, Teacher 2 had followed the lesson plans of the other teachers at her grade level. She said, "I had a terrible time trying to get the standards in…I probably looked at those Common Core Standards about three times and that was about it." After she purchased a list of the standards, Teacher 2 said, "Now I'm aware of the standards." She was still trying to decipher how to use the resources provided by the district. According to her, the district "gives you everything under the sun except for the standards. You can use this. You can use this. You can read, read, read." Teacher 2 wanted clarity from the district in what resources to use and how to use them.

LoU Mechanical Use. Teacher 8 described herself to be at the personal stage of the SoC and level III or mechanical use level of the LoU. Her beliefs about the CCSS have changed over time. She explained:

> I fussed and yelled and screamed and kicked and didn't want to do it and tried to implement parts of it while still teaching what I thought needed to be taught…The standards are no longer my problem, the curriculum is now my problem…I think it's just change. You know, you kind of get used to teaching what you're teaching and how you teach it, and so when changes come about then it's just a little unsettling because I didn't feel comfortable and successful changing.

Teacher 8 began by implementing some of the standards over a couple of years. She said, "Some worked. Some didn't. You leave some out – some work better than others and you add that into your curriculum." Teacher 8 was collaborating with her grade-level team to implement the curriculum that was provided by the district to the extent she has the resources to do so. She said, "Even when we use the curriculum provided by the district, there are still times that we have to supplement with something that those kiddos can kind of grab hold to." Teacher 8's beliefs about the standards changed over time. She was working with her colleagues to improve implementation in her classroom.

Teacher 9 described herself to be at the task stage of the SoC and level III or mechanical use level of the LoU. Teacher 9 said, "The Common Core Standards… I really don't have a problem with them as far as what they're making the children do… The Common Core Standards are more challenging for those students that struggle." In terms of implementation, Teacher 9 said, "We just made it as grade level decision to just

follow the Common Core Standards… We're going to take those Common Core Standards, and we're just going to work our way through the Common Core Standards to make sure that we hit each one." Teacher 9 explained the process that she and the other teachers on her grade-level team use to make instructional decisions. She said,

> We take that standard and we'll use – we have some older reading basals, we have the Rigby books, those are the newer books the district provided for us. Sometimes we use [the] Internet as a resource, so we're pulling all those things, after we look at that standard we're pulling different things to teach that standard.

Teacher 9 was relying on her colleagues to help her implement the standards.

Teacher 10 and Teacher 12 described themselves to be at the task stage of the SoC and level III or mechanical use of the LoU. Teacher 10's view of the standards has changed over time. She said, "In the beginning, I think I was overwhelmed… But as I get into it, it's not bad. Once you break it down and start to understand them, then they start to make sense." She followed the district curriculum map during the first year of implementation but is now adding what she locates through researching ideas online. She said, "I actually tirelessly do research and dig constantly… My eyes are tired this year because of the new implementation of ELA." Teacher 10 explained:

> What I do is follow the district, some of the district guidelines. They don't give us as much this year as they did last year, but I look at the standards and try to work my way backwards from there.

From the standards, Teacher 10 wrote objectives for students. She explained:

> Then I pretty much plan a lesson after that. The way that it is – is kind of like I fly by the seat… if I'm digging through the computer and I see something better, then I'll pull that and give it to the students.

Teacher 10 reflected on the lessons after she tests students to make decisions about what she is going to do next. Teacher 10 asked herself, "If they're not understanding, how can I do this better?" Teacher 12 was nervous about implementing the standards initially and struggled at the beginning. Teacher 12 said, "I was nervous, and it was just a struggle for change. All people struggle with change." However, she liked that these standards are higher. She said, "I like that the standards hold them [students] to a higher standard… They want more from them." Teacher 12 used the curriculum guide from the district to implement the standards. The guide outlines what to focus on and how to pace instruction. She then worked with her partner teacher to identify resources and plan lessons. She said:

> We finally got a grasp of what they are looking for testing wise. We know there's going to be a lot more writing and a lot more essay form questions, so we are trying to put that in social studies. We include writing in everything we do. We include reading response in everything we do because a lot of them struggle with that. They use the just basic multiple choice answer question and that's it. A lot of them don't really know how to think and pull stuff from the text, they struggle with that.

Teacher 10 and Teacher 12 partnered with each other to implement the standards. More research would need to be conducted to determine if their partnership led to their implementation status being the same.

Each of the three teachers in School B described their LoU to be at the mechanical use level. Teacher 4 described herself to be at the impact stage of the SoC and level III or mechanical use level of the LoU. Teacher 4 was at the consequence sub-stage of the impact stage. Teacher 4's view of the standards changed over time. In the beginning, Teacher 4 said, "I think I was scared a little because it was new." Teacher 4 explained, "Over time, as I've taught them [CCSS] and understood how to teach them, it's more of a positive feel about them." Teacher 4 initially began using the standards by changing the questions she asked students to text-dependent questions. When the district moved to full implementation, she followed the district curriculum map for half of the school year, but started exercising autonomy after realizing that her students were less engaged than in past years and that she was not going to reach all of the standards. She said, "I was stressed because I felt like I wasn't getting to all of the standards by using what they gave me." Teacher 4 used the standards as the basis of her planning. She said, "I have a chart that I look at and it gives me the standards in the way you would say it to kids." She then took into account the interests of her students, their readiness, and the materials she had available for instruction. She also checked the curriculum map provided by the district because she does not want to miss "something better than what I'm doing." Teacher 4 believed that her students were already making progress with the CCSS but expected more with time. She explained:

> By the end of the year, the way they look at texts is completely changed from when they first walked in the classroom. I mean every year it has gotten better. They're going to be able to write and read… In 3 years, I'm not going to even be questioning whether or not what I'm doing is the right or wrong thing. I'm going to know based on my kids and what they know at the end of the year.

The progress Teacher 4 had made was the result of her hard work and commitment to continuously improve.

Teacher 5 described herself to be at the impact stage of the SoC and level III or mechanical use level of the LoU. Teacher 5 was at the consequence sub-stage of the impact stage. She said:

> I think that Common Core is a good thing. I think they are more prepared for the next grade level. And I guess as they get higher up, they're college ready. They definitely come to us [fourth grade] with these Common Core Standards knowing more.

When discussing barriers to implementation, Teacher 5 said:

> I am probably one of the most easy going, and I just find a way to make things happen because if not then I'm going to cry every single day. There are too many things in our way. If you love it, you just have to not even worry about that stuff.

Teacher 5 initially began implementation by adding more nonfiction texts to the curriculum. With full implementation, Teacher 5 began following the curriculum map provided by the district. She began basing her lessons plans and student assessments on the CCSS. She said, "I just always do as I am told so I just followed what was given to

me… I trust the district to follow the standards." Teacher 5 was focused on making progress.

Teacher 6 described herself to be at the impact stage of the SoC and level III or mechanical use level of the LoU. Teacher 6 was at the consequence sub-stage of the impact stage. Teacher 6 was frightened at first that students would not be successful with the standards. She said:

> When I was first introduced to it, it was something that I was very afraid of from other teachers' reactions and with me being a new teacher it seemed like we were giving the students an impossible task… but as I've grown and have become more comfortable with the standards, I know this is something our children can do.

Teacher 6 began implementing the CCSS while teaching in another district. The district encouraged teachers to become familiar with the standards. To do so, Teacher 6 said:

> I compared them [CCSS] with the GLEs to see what I was familiar with and also to help me decide what would be the hardest for me or what I would need the most help or support in getting more information on… That would kind of help me become more confident by saying, 'Oh, I see the relationship between these two, so it will kind of give me a path.'

After comparing and contrasting the CCSS with the previous student standards, Teacher 6 said, "I really had to go back and decide what stories I would take out and what stories I would use or what strategies I was going to focus on more than the others." Teacher 6 had observed an improvement in students' standardized test scores since implementing the CCSS. She said, "My first year of teaching I had maybe 75% proficient. Last year I

had 90% proficient." Teacher 6 was following the district curriculum map this year but planned to decide what she would do in the future based on the results of the state standardized test. She said, "I want to have some data at the end of the year and say, 'Hey, you know… this is what I did this year and this is how it affected or helped to increase my scores." Teacher 6 was interested in finding ways to be more effective.

LoU Routine. Teacher 7 described herself to be at the impact stage of the SoC and level IVA or routine level of the LoU. Teacher 7 was at the consequence sub-stage of the impact stage. She agreed with the rationale for the CCSS from the beginning as a result of personal experiences with living in two different states as an elementary school student. She explained how the CCSS were first described to her while she was in college:

> They said that it would give our kids a better advantage of getting into the Ivy League schools just like all the other states…When I was younger my family moved from Louisiana to Texas and back to Louisiana. That was probably the worst 2 years of school for me because I went from knowing what I thought was gifted in Louisiana to being so far behind in Texas that I had to go to remediation. And then when I came back from Texas I was learning things in Louisiana that I had already learned in Texas. So it made sense when they told us in our class that we would learn – all of our kids would learn the same things.

Her approach to implementation began with matching the standards to relevant resources. She said, "As educators we are trained to look at something and then find resources to be able to teach them." In order to implement the standards, Teacher 7 invested her own

money in purchasing resources online. When asked how much, she estimated $200 and explained that her husband was especially troubled by this personal investment. She said, "He has an Excel spreadsheet." Teacher 7 demonstrated a strong commitment to high-quality implementation of the standards.

LoU Refinement. Teacher 1 described herself to be at impact stage 4 of the SoC and level IVB or refinement of the LoU. Within the impact stage, Teacher 1 was at the consequence sub-stage. Teacher 1 explained, "I believe in it [CCSS], because I see what my kids can do because of it much through this. You know, I didn't use to teach them to do these things. I didn't require it of them." She described how her feelings about the standards changed over time, "I think in the beginning I liked them, but I was worried that students couldn't meet them. I was worried that they were too difficult to reach, but as I raised my expectations for the students, they met them." Her LoU was based on her description of how she continued to refine how she taught the standards. Teacher 1 explained, "I found that I was much more able to meet the standards when I chose the right text… I just go the library and grab a stack of books, sit on the floor, and read through them." She described how the district where she first started teaching "realized that in order to meet these standards, we had to change how we taught." She credited her implementation progress to the preparation and the professional development she received.

Research Subquestion 2: How do elementary school teachers describe their experience of progressing from one stage to the next along the implementation continuum?

Findings from the analysis of data for Subquestion 2 focused on the factors that contribute to implementation progress. Themes 1, 3, and 5 emerged from the analysis of Subquestion 2. The themes are: teacher collaboration drives implementation progress, common processes to monitor implementation progress are a need, and practice time impacts implementation progress. These findings are important because they point to specific drivers of implementation progress. Teachers or leaders can incorporate or strengthened their efforts to use these strategies to promote implementation progress.

Research Subquestion 3: How do elementary school instructional leaders describe teachers' experiences in progressing from one stage to the next along the implementation continuum?

Findings from the analysis of responses for Subquestion 3 focused on one factor that contributes to implementation progress. Theme 1 emerged from the analysis of responses for Subquestion 3. Theme 1 is teacher collaboration drives implementation progress. Other categories emerged in response to Subquestion 3 in School A, School C, and School D; however, the categories lacked evidence to form themes. The findings for this question are important because they confirm the value of teacher collaboration. Teachers and instructional leaders agreed that collaboration drove implementation progress.

Summary of Findings

The overarching research question driving this case study was:

How do elementary school teachers and instructional leaders describe teachers' progress along the CCSS implementation continuum?

Collaboration emerged as the strongest driver of implementation. Both teachers and instructional leaders pointed to the role of collaboration in driving implementation. Training to make the required instructional shifts to teach the standards drove implementation progress for the teachers who had access to effective training. Monitoring implementation progress also drove implementation progress for the teachers who developed strategies to monitor progress. The teachers pointed to training and monitoring progress. The instructional leaders did not identify either of these. Another finding that emerged across at least three cases was the need for aligned resources. The teachers and instructional leaders pointed to this need.

Interpretation of the Findings

The analysis of the data for the first research subquestion about how teachers describe their status on the implementation continuum revealed that the status of most of the participants was clustered in the middle of the implementation continuum. A couple of teachers had more advanced statuses. A few teachers were just beginning implementation. The number of teachers in the study at the beginning and in the middle of the implementation continuum indicates that teachers continue to need support with this process.

Collaboration is a driver of implementation and should be strategically utilized to improve the change process. This is supported by the findings for subquestions 2 and 3 of this study and CBAM. Collaboration is a component of advanced stages of the SoC and high levels of the LoU (George et al., 2013; Hall et al., 2011). The importance of

collaboration in implementation is also confirmed by current research (Barma & Bader, 2013; Moceri et al., 2012).

The needs identified in the study for more teacher training to teach the standards, mechanisms to monitor progress, and resources aligned to the standards should all be addressed. Teachers need to be prepared to teach the standards (Bair & Bair, 2011). Tracking progress is a necessary component of the implementation process (Ferreira, Gruber, & Yarema, 2012). When teachers have this training, the mechanisms to track progress, and resources aligned to the standards, the rate of teachers' progress will increase (Baker, Palmer, & Kerski, 2009).

School A

According to CBAM, the needs of the teachers differed in order to continue progressing along the implementation continuum, and only one similarity existed between what the participants identified as needs of the teachers and what the teachers' needs were according to CBAM (Hall et al., 2008; George et al., 2013). According to CBAM, Teacher 1 needed opportunities to collaborate with others in order to progress in her SoC and LoU. Teacher 2 needed to monitor her progress and to continue to establish routines to build on over time. Teacher 3 needed to establish routines in gathering resources, planning lessons, delivering instruction, and assessing student growth in order to progress in her SoC and LoU. The only similarity between what the participants identified as needs of the teachers and what the needs are according to CBAM was gaining experiences with teaching the standards through repeated practice.

School B

The needs of teachers identified by the participants matched the needs according to CBAM (Hall et al., 2008; George et al., 2013). Based on their SoC and LoU, the teachers needed time to collaborate with others and to begin to establish routines in order to continue progressing along the implementation continuum. CBAM specifically identified collaboration as a need for teachers at the SoC and LoU of the participants in School B. Both monitoring and time were related to the need identified by CBAM for teachers to establish routines.

School C

Two similarities existed between what the participants identified as needs of the teachers and what the teachers' needs were according to CBAM (Hall et al., 2008; George et al., 2013). According to CBAM, in order to continue progressing along the implementation continuum, the teachers' needs differed. Teacher 7 needed opportunities to collaborate with others in order to progress in her SoC and LoU. Teacher 8 needed to begin to establish routines in gathering resources, planning lessons, delivering instruction, and assessing student growth in order to progress in her SoC and LoU. Teacher 9 needed to monitor her progress and to continue to establish routines to build on over time.

School D

One of the teachers' needs identified by the study participants was similar to a need according to CBAM (Hall et al., 2008; George et al., 2013). According to CBAM, in order to continue progressing along the implementation continuum, the teachers had similar needs. Teacher 10 and Teacher 12 needed to monitor their progress and to

continue to establish routines to build on over time. Teacher 11 needed to begin to establish routines in gathering resources, planning lessons, delivering instruction, and assessing student growth in order to progress in her SoC and LoU.

Conclusion

This multicase study provided an opportunity to gain an understanding of how teachers and instructional leaders described how teachers progressed along the implementation continuum. This section included a description of the design, data collection, participants, data analysis, findings, interpretation of the findings, and the conclusions drawn from this multicase study. The 16 participants, who included both teachers and instructional leaders responsible for implementing the CCSS, took part in interviews and member checks of the data collected. Based on the themes that emerged from analyzing the data, elementary school teachers and instructional leaders overwhelmingly credited teachers' progress in implementing the standards to teachers collaborating with their peers. The similarities in the responses from teachers and instructional leaders ended with collaboration. Collaboration was the only theme that emerged from the instructional leaders. This may be because only one instructional leader was interviewed in each school. To glean more from the instructional leaders, more participants or perhaps more data collection methods would need to be utilized. The teachers had more feedback on enhancing implementation. According to the analysis of the data from teachers, teachers needed more training to make the instructional shifts to teach the standards, common processes to monitor implementation progress, and resources aligned to the CCSS. Discrepancies existed between School A

and the other schools. More research would be need to be conducted in order to understand the extent of the discrepancies. The findings led to a professional learning project to address the local problem. The project is focused on teachers building on their progress made through working collaboratively to provide more training for teachers and a mechanism for a common process to monitor their progress in implementing the standards. The project is addressed in the next section.

Section 3: The Project

Introduction

Four themes emerged across multiple cases in the data analysis. One of the themes is teacher collaboration drives implementation progress. The other three are needs. They include: (a) training to make the instructional shifts, (b) common processes for monitoring progress, and (c) aligned resources. The district administration is responsible for securing materials of instruction; however, the needs to monitor progress and more training can be addressed through a professional development project that capitalizes on collaboration as one of the district's strengths. This section describes the goals of the project, rationale for the project genre, review of the literature that supports the project components, an implementation plan, plans for formative and summative evaluation of the project, and local and far-reaching implications of the project.

Description and Goals

The project structures professional learning community (PLC) meetings over the course of one semester using a quality improvement process utilized in various fields. The process is the plan, do, study, and act (PDSA) cycle. Teachers will co-design assessments, co-design lessons, co-construct feedback on student work, and provide feedback based on observations of student learning. Teachers and their instructional leader will participate in the professional development activities over the course of one semester for a total of approximately 4 days or 32 hours. Appendix A contains the agendas, slideshows, templates, protocols, materials, and evaluations for the project comprised of 18 different meetings. The majority of the meetings will consist of weekly

PLC meetings of grade-level teams of teachers and their instructional leader. The grade-level teams will also meet in small groups and large groups during teacher in-service days.

The project addresses the problem identified in section 1 of educators needing support to progress along the implementation continuum. The goal of the project is for teachers to achieve deeper levels of implementation by supporting each other through a quality improvement process. Teachers and instructional leaders will reflect on the activities during the semester to make mid-course corrections and will collectively decide if the quality improvement process should be continued during subsequent semesters.

Rationale

This particular project was selected to address this problem because needs for training and monitoring progress were identified through the study. This project builds on a strength identified through the study to address these needs. Collaboration emerged in the study as the strongest driver of implementation. This project will focus collaboration on better preparing teachers to support students in meeting the standards and also on providing mechanisms to monitor progress for making mid-course adjustments. These emerged in the study as needs. Also, teachers in the district are already organized into professional learning communities and meet weekly. Therefore, the project builds on an existing structure.

The professional development project genre was selected because this genre is most appropriate in addressing two of the three needs identified as findings of the study. Two of the themes that emerged through the research are a need for better training for

teachers on the required instructional shifts and a need for common processes to monitor implementation progress. Both of these needs will be addressed through this professional development project. A major component of the project is collaboration because it emerged as a theme of the research as the most important component of implementation to teachers. The problem of teachers needing support to progress in their implementation of the CCSS will be addressed as teachers work collaboratively to accomplish tasks that are part of their existing workload. Through working together, teachers will establish plans to further their implementation and monitor their progress as they implement their plans. The project is a solution to the problem because the needs the teachers identified can be met through working together.

Review of the Literature

To locate current literature, multiple Boolean searches were conducted using Academic Search Complete, Education Research Complete, Education Researcher Starters, ERIC, ProQuest Central, and Teacher Reference Center. The search words included appreciative inquiry, analyzing student work, collaborative inquiry, feedback, goal setting, monitoring implementation, needs assessment, PDSA, peer observations, problem solving, professional learning, professional learning communities, quality improvement, quality improvement and education, self-monitoring, and team member roles. The criteria for this project were based on professional development research and the theories of collaborative inquiry and quality improvement.

Professional Development

A cross-case analysis found that motivation to change influences the impact of professional development activities (Dingle, Brownell, Leko, Boardman, & Haager, 2011). Effective professional development is relevant to the work of teachers, sustained over time and embedded into the workday (Kaiser, Rosenfield & Gravois, 2011). Effective professional development builds adult learning into the day according to a case study of two instructional coaches (Steckel, 2009). The most effective professional learning consists of at least 20 contact hours and is sustained over time (Pella, 2011b; Sinnema, Sewell, & Milligan, 2011). Another study conducted through survey research found that a minimum of 30 hours should be dedicated to a professional learning endeavor (Ho & Arthur-Kelly, 2013). Frequent interactions also increase the effectiveness of professional development (Gerlak & Heikkila, 2011). Based on a mixed-methods study of nine primary schools and three secondary schools, Opfer and Pedder (2010) found that the most effective professional development involves inquiry and problem solving and collaboration and peer observations are two of the most effective formats. A study on scaling up professional development identified the need for teachers' learning experiences to be well-integrated with their daily work (Landry, Swank, Anthony & Assel, 2011).

Collaborative Inquiry

The literature confirms the benefits of collaborative learning. In a year-long research and development project involving 26 teachers, collaborative inquiry paired with outcomes-linked evidence led to instructional improvement (Sinnema et al., 2011). When working collaboratively, teachers relied on themselves and not external sources for

their learning (Goodnough, 2010). Based on the results of a qualitative study with four middle school teachers and another study surveying 99 educators respectively, Pella (2011a) agreed with Gerlak and Heikkila (2011) that collective participation is one factor of professional learning that changes practice. To be effective, feedback on instructional practice must be combined with collaborative inquiry in order to improve teaching practice (Poekert, 2010).

Quality Improvement

Quality improvement is a strategy for implementing innovations and improving practice in general (Nadeem, Olin, Hill, Hoagwood, & Horwitz, 2013). Nadeem et al. noted, "Inherent in this approach is the assumption that improvement is always possible and continuous and that workers intend to perform well" (2013, p. 356). This strategy is used in fields like manufacturing, health care, higher education, and early childhood education (Al-Shammari, 2012; Ma et al., 2013; Marshall, 2010; Steiner & Walsworth, 2010). Quality improvement can be summarized in the following three questions: "What are we trying to achieve? How will we know if we have improved? What changes can we make to improve?" (Gillam & Siriwardena, 2013, p. 124). A study of top management group meetings of eight organizations in various fields found that clarity of goals influences the effectiveness of meetings (Bang, Fuglesang, Ovesen, Eilertsen, 2010). The principles derived from manufacturing for healthcare include: progress monitoring, patient focus, synergy, and strategic planning (Steiner & Walsworth, 2010). A number of quality improvement processes exist, including: PDSA or plan-do-check-act cycles, continuous quality improvement, Improving Performance in Practice, total quality

management, Six Sigma, Lean, Lean Six Sigma, and statistical process control or statistical quality control (Margolis et al., 2010; Nicolay et al., 2012). These processes vary in both the type of information required and the type of results provided (Nicolay et al., 2012).

The quality improvement process incorporated into this project is the PDSA cycle because of the applicability of the process to this project. PDSA is a popular quality improvement process for collaborative learning sessions (Nadeem et al., 2013). PDSA fosters immediate adjustments through short feedback cycles. The PDSA cycle consists of these components: (1) developing a plan and identifying the success criteria, (2) collecting information while carrying out the plan, (3) examining the results, and (4) adjusting the original plan based on the results (Gillam & Siriwardena, 2013). According to Shieh, Lyu and Cheng (2012), students developed analytical and problem-solving skills when the PDSA cycle was used to teach the Harvard case method to students in Taiwan.

The role of lesson plans and assessments in implementing standards was explained in the Section 1 literature review. A review of the literature for the other components of the project is described below.

Components of the Project

Professional learning communities. The effectiveness of PLCs is uneven. More effective PLCs are well-structured and focus on areas needing improvement (Leclerc, Moreau, Dumouchel, & Sallafranque-St-Louis, 2012; Riveros, Newton, & Burgess, 2012). Effective PLCs also rely on collaborative inquiry and identifying

outcomes-linked evidence to impact teacher practice and student learning (Sinnema et al., 2011). In-person learning sessions of teachers were found to promote success in a systematic review of the literature (Nadeem et al., 2013). Teachers involved in effective PLCs participate in activities that are relevant to their everyday work (Maloney & Konza, 2011). Analyzing and responding to student work is an example of a relevant activity (Wells & Feun, 2013). Effective PLCs also require instructional leadership. Principals of schools with effective PLCs operate their schools as learning organizations with a focus on continuous improvement to achieve the vision (Leclerc, Moreau, Dumouchel, & Sallafranque-St-Louis, 2012).

Monitoring progress. Monitoring progress is supported in the literature as an important component of implementation in education and other fields (Miskovic, Wyles, Carter, Coleman & Hanna, 2011). The federal government has invested heavily in monitoring progress of innovations through the creation of multiple federal centers (Bolt, Ysseldyke & Patterson, 2010). Learning outcomes can be used as in indicator of quality (Al Shammari, 2012). Using tools for monitoring progress is a common practice in other fields (Miskovic et al., 2011). One tool is self-reflection. Teachers reflecting on their own practice is a mechanism for monitoring progress (Vannest, Soares, Harrison, Brown, & Parker, 2010; Lylo & Lee, 2013). Teachers need a need a framework for sustainable feedback (Carless, Salter, Yang & Lam, 2011; Stuart et al., 2011). Feedback from others should be tailored to teacher preferences for problem-solving feedback over feedback on previous mistakes as found through a longitudinal, qualitative study (Stuart et al., 2011). When teachers work together to incorporate their self-reflections, input from others, and

information about student progress they can identify more efficient and effective ways of implementing the standards (Hagermoser Sanetti, Fallon & Collier-Meek, 2013).

Collaboratively providing feedback on student work. The literature supports feedback on student work as a critical component of the work of teachers (Ruiz-Primo & Li, 2013). As teachers examine student work to construct feedback, they develop a deep awareness of student understanding and student needs (Buxton et al., 2013). Constructing feedback is a complex process (Diefes-Dux, Zawojewski, Hjalmarson & Cardella, 2012). In a qualitative study of 24 high school physics students, Tumpower & Sarwar found that learning increased through feedback paired with opportunities for remediation. According to survey research conducted by Chetwynd and Dobbyn (2011), constructing effective feedback is a strategy for closing the gap between current and desired performance and provides information to shape teaching.

Observations. Observations of students in team members' classrooms provide opportunities for teachers to better understand teaching and learning (Pella, 2011a). Poekert (2012), who conducted a qualitative study involving 12 teachers in two schools, found a strong connection between feedback and improved practice. Another study by Duncan, Dufrene, Sterling & Tingstrom (2013) confirmed that performance increases with feedback. Over 90% of the 101 participants in a professional development study agreed or strongly agreed that peer observations and follow-up conversations were beneficial modes of professional development (Ho & Arthur-Kelly, 2013).

Problem solving. A systematic review of discourse studies confirmed the need for opportunities to dialogue with colleagues in current work environments (Halvorsen,

2010). Teams are becoming more common to meet the needs of changing organizations while defined hierarchies are becoming less common (Halvorsen, 2010). A study found documented student improvements when a team of teachers used a problem-solving approach to address student needs (Todd et al., 2012). Verbal feedback allows for providing more examples and more probing as determined through an experimental study of pharmacy students (Medina, Conway, Davis-Maxwell, & Webb, 2013). In a study of a problem-solving process in four elementary schools Newton, Horner, Todd, Algozzine, and Algozzine (2012) found that teams need technical assistance in problem solving.

Summary of the Review of the Literature

Theories of collaborative inquiry and quality improvement along with the current research on professional development provided the foundation for this literature review. The literature is clear on the benefits of teachers working together on tasks related to their work. The review of the literature outlines the research on the length, structure, and components of the project.

Plan for Implementation of the Project

Potential Resources and Existing Supports

Leveraging existing resources and supports will make the project feasible. One of the most critical existing supports is that teachers in the district are already organized into PLC teams that meet weekly. Another potential resource is the electronic platform used by the district for teachers to share resources. This platform will be used to create templates for the meeting agendas, protocols, and forms needed to complete the project.

Potential Barriers and Solutions

Solutions will need to be utilized to overcome the potential barriers in order for the project to be implemented successfully. Communicating the benefits of the project to school leaders and teachers in the district will be a challenge because of the number of schools in the district. Several strategies will be employed to overcome this barrier. Time will be requested from the district leadership during a required meeting for instructional leaders to present the project and provide information on accessing the materials. Another session will be offered for teachers. A request will be made of the district leadership to advertise the time and provide a facility for the meeting. Finally, the project materials will be made available through a website to facilitate sharing within and outside the district.

Instructional leaders and teachers will need the support of principals to implement the project. Teachers and leaders will need to have their PLC time protected in order to participate in the project. Teachers will also need release time in order to observe learning in other classrooms. This creates the only financial barrier for the project. To address this barrier, principals will be encouraged to secure substitute teachers to cover for teachers on a rotating basis to provide release time. The number of days a substitute will be needed at each school during the 12 weeks that teachers participate in observations is equivalent to the number of teachers on each grade-level team. In a school with five teachers at each grade level and the substitute teacher cost ranging from $55 to $80 per day depending on the substitute teacher's credentials, this would cost a school between $3,300 and $4,800 for one semester (M. Boutte-Magee, personal communication, February 25, 2015). In a school with five teachers per grade-level team

from pre-kindergarten through fifth grade, this would be an investment of less than $150 per teacher per semester.

Proposal for Implementation and Timeline

The goal is to present the information to instructional leaders and teachers so that the project can be implemented in the fall of 2015. Once the study is approved, the project materials will be loaded on a website. A meeting will then be scheduled with the district superintendent to share the findings of the study and the project. The requests for support in sharing the project with instructional leaders and teachers will be made during this meeting with the superintendent. The informational meetings will then be scheduled. The project materials will be provided to meeting attendees through Google Drive. As part of the informational meetings, I will request notification of use, so that I may make myself available to provide support in implementing the project and also to determine what modifications need to be made to improve the project.

Roles and Responsibilities

Communicating the value and components of the project is my responsibility as the researcher. I will communicate the benefits of the project to district leaders, instructional leaders, and teachers through meetings and a website. I will make the project materials available to any team interested in using the project and make myself available to provide support as needed. Finally, I will track use and modifications and update the project materials at the end of the first semester based on feedback.

The district and school leaders will play an important role. They will decide if this project is one that they will support teachers and instructional leaders in

implementation. This decision will be based on their needs and my explanation of the benefits of the project. Leaders who support the project will need to dedicate the required resources to make the project successful.

Teachers and instructional leaders who participate in the project have the most extensive roles. The teachers and instructional leaders are responsible for daily execution of the project. Their roles are described in detail in the project materials (see Appendix A). Over the course of a semester, teachers will spend 32 hours co-designing assessments, co-designing lessons, co-constructing feedback on student work, and providing feedback based on observations. The instructional leaders will guide teachers in this work.

Project Evaluation

An objective-based approach using both formative and summative evaluations will be conducted to inform mid-course corrections of the project plans and evaluate the overall quality of the project (Spaulding, 2008). The main stakeholders in the evaluation process are the teachers and instructional leaders participating in the study. The instructional leaders will make mid-course corrections to the project to address teacher concerns that arise during the project. The summative evaluation will inform school leaders of the desire of teachers to continue or discontinue the project in subsequent semesters.

Formative evaluations will be conducted at the end of each meeting in order to inform future meetings (Spaulding, 2008). The evaluation questions for the meetings were based on the criteria described in the literature review. The needs of both teachers

and students will be the focus of the evaluations (Schostak et al., 2010). Another component of the evaluations will be the clarity of the meeting goals and the extent to which the goals were achieved. The evaluations will also track the costs versus the benefits of the project (Britt, Gresens, Weireter, & Britt, 2014). The formative evaluations will address teacher reactions, teacher learning, and likelihood for use of the learning with students (Guskey, 1999). The grade-level team leader will collect the evaluations after each meeting and make necessary adjustments before subsequent meetings. The evaluation tools are provided as part of the project (see Appendix A).

A summative, objective-based project evaluation will be conducted at the conclusion of the project (Spaulding, 2008). The goal of the project is for teachers to progress along the implementation continuum. At the conclusion of the project, teachers will be asked to determine their progress along the implementation continuum and the extent to which the project contributed to their progress. Teachers will also be asked about the impact of the project on student learning (Guskey, 1999). Teachers will then be asked to vote on whether or not to continue with the project in subsequent semesters. If the majority of teachers indicate that they progressed along the implementation continuum as a result of this project and/or a majority of grade-level teams that implement the project as described decide to continue after one semester, then the project will be considered successful.

Implications Including Social Change

Local Community

This project addresses the needs of learners in the local community through supporting their teachers. The project is designed to support teachers in progressing along the implementation continuum. Teachers are currently working together through PLCs; however, the effectiveness of these interactions can be improved. The project will provide structure for teachers to focus their attention on student needs as they collaboratively improve implementation. The project will directly impact students by improving instructional practice through ongoing, collaborative professional learning. The design of the project increases the number of adults focused on each student's needs. Students are likely to meet more of the CCSS as implementation improves. Students are the greatest beneficiaries of teachers having the support and structures they need for continuous improvement, but administrators will also benefit from the use of existing resources to meet needs. Families and community partners will also benefit as students and teachers experience more success.

Far-Reaching

The project has the potential to impact teachers and students across the country. Forty-four states are currently implementing the CCSS for English language arts, and PLCs are used by numerous schools nationwide (Core Standards, 2015; Nelson, Deuel, Slavit, & Kennedy, 2010; Thessin, 2015). Because of the applicability of this project for teachers across the country, the project will be published on a website to increase the likelihood of reaching teachers in other states.

Conclusion

The goal of the project is for teachers to progress along the implementation continuum. This progress will be possible through a collaborative professional development project. Collaborative inquiry is a strategy supported by research for professional development (Sinnema et al., 2011). The work of teachers will be enhanced by a quality improvement process used in other fields.

Section 4: Reflections and Conclusions

Introduction

The problem studied was that educators do not naturally progress along the implementation continuum. The focus of the project was to gain an understanding of how teachers approach the implementation of the CCSS and identify ways to support teachers in progressing along the implementation continuum. This section explains the project strengths and limitations and recommendations for alternate approaches, along with what I learned through the study, analysis of my work, and reflections on the importance of the work. The section also includes implications, applications, and directions for future research.

Project Strengths and Limitations

This project possesses a number of strengths. The project is focused on a current need to improve implementation of standards. This project is built on collaboration as an existing driver of implementation in addressing the unmet needs of preparing teachers to support students in meeting the standards, and monitoring implementation progress over time. Existing resources, namely the time for PLC meetings and instructional leaders to facilitate these meetings, were reallocated to meet those needs. The project exceeds research-based requirements for length of time of professional development activities with the additional expense being limited to the cost of a substitute teacher (Ho & Arthur-Kelly, 2013). The project is relevant to the actual work of teaching, such as planning lessons and providing feedback on student work. The work that teachers do together through this project is work that they would otherwise do on their own. The project was

designed to meet teachers where they are in implementation and provides a process to help them progress along the implementation continuum. Also, this project is built into the school day (Kose & Lim, 2011). Teachers will not have any additional commitments to meet as a result of this project but will instead be better equipped to fulfill current responsibilities.

The project also possesses limitations. The focus of the work limits the number of initiatives teachers will be able to attend to during the semester the project is implemented. The project requires all of the PLC time for an entire semester. This project is not systemic. It is a process for individual teams of teachers to implement to meet their needs. Communicating the progress teachers and students make may be difficult outside of the grade-level teams. Leaders will need to determine how to collect information on the status of implementation at the school and/or district level. Also, the study limits professional development interactions to the school. Outside experts will not be involved in the work.

Recommendations for Alternative Approaches

Alternative approaches could be taken to address the problem. To remediate the limitations created by focusing at the teacher level, a similar approach could be established at the school and district levels. For instance, the instructional leaders that meet with teachers for PLCs could meet with their peers periodically and use a quality improvement process for enhancing the support provided to teachers for the implementation process (Bouchamma & Michaud, 2011). Through this process, the instructional leaders could collect information about implementation to inform decision

making. This could take place at both the school and district levels for problem solving and monitoring purposes. Another alternate approach would be to provide teachers with more time to interact with instructional coaches (Carlisle & Berebitsky, 2011). This would be a more expensive approach because more instructional coaches would need to be hired.

Scholarship

Through this endeavor, I learned a tremendous amount about scholarship. I learned that a gap exists between research and practice. People talk about research-based practices, but sometimes individuals overgeneralize and are vague about the conditions and findings. Scholars realize this, but gaps exist between themselves and practitioners. Another lesson I learned is to be selective. Current, peer-reviewed primary source literature provides a stronger foundation for my work than other sources of information. I learned that practice and research have a reciprocal relationship. As one improves, so does the other. I also learned that more questions exist in the field than answers.

Project Development and Evaluation

I learned about project development and evaluation during the course of this project. This is an area where I see myself continuing to work in the future. Through the experience, I learned about project development and evaluation being an iterative process. My ideas continued to evolve as I conducted research and discussed my findings and ideas with peers. I learned that returning to the problem that needs to be solved is important through these iterations of project development and evaluation. Some of my ideas drifted from the original purpose. I also learned that project development

and evaluation require addressing all of the details, especially for projects that are designed to be implemented by others.

Leadership and Change

The project study was on how teachers approach change. My interest in implementation led to the selection of this topic. I wanted to fully understand how I could support educators in achieving maximum impact on student learning. Through this study, I expanded my knowledge on this topic. I also learned about how leadership can support individuals in navigating change. Individuals all have different appetites for change (Towndrow et al., 2010). Supportive leaders can make the change process smoother for teachers (Coburn & Woulfin, 2012). Also, leaders need to be precise in describing what is going to be implemented and provide the necessary resources to make the change possible (Hall & Hord, 2011). All of the themes that emerged from each individual case and across the cases were lessons for me on how to lead people through change. I am especially fascinated by the theme of peer influence, and will consider how this can be maximized for positive impacts.

Analysis of Self as Scholar

I learned that scholarship can be exciting and very tedious work. One of the unexpected themes that emerged was peer influence. I will never forget the moment the theme emerged. My fellow airline passengers gave me strange looks as I raised a fist in the air with excitement. This came after long hours of examining the data from different perspectives. In the future when people claim something is research based, I will ask to examine the study to determine the applicability and understand the limitations. I also

learned that strength exists in numbers. In addition to the peer debriefing discussed above, my colleagues supported me through every aspect of this endeavor. I have a great network of educators. Through many conversations and e-mail messages with my peers, I developed stronger ideas and deeper understandings. My peers helped identify appropriate keywords for searches and reminded me of things I knew but was too deep into the work to remember, like using books from our courses and other dissertations when I became stuck. Most importantly, their excitement propelled me to work when my motivation waned. I also learned that I made the right decision when I chose an Ed.D. program instead of a Ph.D. program. My contributions to education will be in policy and practice instead of research.

Analysis of Self as Practitioner

My roles as a practitioner changed during the course of my doctoral studies. I was a middle school social studies teacher when I first began the program. Six months into the program, I started working for a statewide nonprofit organization to support teacher and pre-service teacher professional development. I now work for a national nonprofit organization in supporting state education agencies with teacher and leader development. I also ran for and was elected to my state education board. This study was a great opportunity to get back into schools, and reinforced my desire to serve as a school leader one day. I realized while working on my doctorate that I prefer working as a practitioner to that of a scholar.

Analysis of Self as Project Developer

I learned more about myself as a project developer through this work. I learned that collaboration enhances project development. Brainstorming with my peers about my project helped to develop my ideas. I also learned that my strength is in developing the broad ideas for projects. I am able to analyze situations and offer potential next steps. I struggle more with the specific details and following up. The literature review helped me to make decisions regarding the details of the project. Project development is a major component of my current position. I have a passion for supporting teachers in meeting student needs through projects that I develop with the help of others.

Reflection on the Importance of the Work

The most important lesson that I learned from this project is the importance of teachers working together to implement change. Teachers can be each other's greatest sources of support. Although it is helpful when teachers receive all of the information and support they need from school and district leaders, technology has flattened the hierarchy in education to some extent. Diffusion of information is not as challenging as it once was. Teachers do not have to wait for information from school leaders. All of the information teachers need to be successful is accessible. Teachers can follow state chiefs on social media and read newsletters from state education agencies online to learn about new initiatives. Teachers can and do organize themselves as implementation teams. Teachers just need to know where to find the information and how best to collaborate with each other to implement changes. By building on teacher collaboration, this project has the potential to impact the quality and progress of implementation of the CCSS at the local level.

Implications, Applications, and Directions for Future Research

The project has the potential to impact positive social change at the school level through describing how individuals approach implementation and providing a process for making improvements. Understanding the change process will help educators to better support each other in this process. The project will empower teachers to support each other in addressing their implementation challenges. The major recommendation for practice includes focusing collaboration on a quality improvement process.

Future research is needed to address topics that emerged through the study. One topic that emerged is the impact of receiving a value-added measure on implementation. Third grade teachers do not receive value-added measures, but the fourth and fifth grade teachers do receive value-added measures. Research is needed to determine the impact of receiving a value-added measure on the quality of implementation. Third grade classrooms could be compared to fourth grade or fifth grade classrooms where teachers receive value-added measures. Another topic emerged about the difference between teaching grades in which students take high-stakes tests and teaching grades in which students do not take high-stakes tests. In this state, student results on the state assessment determine promotion from fourth grade to fifth grade except during the years of transition to the new assessments. Research is needed on the impact of high-stakes testing for students on the quality of implementation. The role of peer influence on teachers' implementation decisions emerged as another topic that needs more study. A study could be conducted comparing implementation at various grade levels within a school to determine the extent of the impact of peer influence.

The most important application of the research that can be made in the field of education is to create and/or strengthen structures for implementers to work collaboratively to promote change. Both informal and formal collaborations were discussed by the participants. Leaders can maximize on the potential for collaboration by deliberately working to create opportunities for implementers to work together. Implementers can be each other's strongest allies. They need opportunities and structures to engage in this work.

Conclusion

Implementation is a complex process that requires attending to the evolving needs and progress of the individuals responsible for implementation. Tracking progress along an implementation continuum provides a mechanism for understanding how the needs of the implementers evolve over time. In order to realize the value of an idea, education leaders need to develop processes to implement the innovation, to monitor progress over time, and to make necessary adjustments for assuring sustainable change.

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Appendix A: The PDSA Cycle Project

Purpose

The purpose of the project is to add a continuous, quality improvement structure to the Professional Learning Communities to drive implementation of CCSS.

Goals

The goal is for teachers and instructional leaders to progress along the implementation continuum.

Learning Outcomes

The teachers will understand and participate in the PDSA cycle process.

The teachers and instructional leaders will co-design lessons.

The teachers and instructional leaders will co-design student assessments.

The teachers and instructional leaders will observe instruction and provide feedback to their peers.

The teachers and instructional leaders will collaboratively analyze student work.

The teachers and instructional leaders will identify and solve problems.

The teachers and instructional leaders will make adjustments and continue the cycle based on lessons learned.

Target Audience

Teachers implementing the CCSS and their instructional leaders supporting the work

Components

A PDSA cycle will be applied to PLC meetings where teachers will participate in activities relevant to their responsibilities.

Activities

Teachers will co-design lessons, co-design student assessments, observe learning, collaboratively solve problems and make adjustments based on their learning.

Trainer Notes
See the meeting agendas for the trainer notes.

Module Formats

The project will occur through PLC meetings.

List of Materials

Meeting Agendas

Evaluations Questions

Meeting Log Template

Problem of Practice Template

Problem of Practice Protocol

Sample Template for Tracking Student Progress

Microsoft PowerPoint Slideshow Quality Improvement Processes

Microsoft PowerPoint Slideshow PDSA Cycle Project

Materials

Meeting Agendas

* Item provided as part of the project.

** Materials and/or supplies that teachers need to take to the meetings.

*** Requires pre-work.

1st Meeting PDSA Cycle – Planning				
Goal The goal is for teachers and instructional leaders to become familiar with the quality improvement process and begin co-designing student assessments and lessons plans.				
Time	**Activity**	**Trainer Notes**	**Lead**	**Materials**
15	Welcome	Begin with introductions of all the faculty members.	Instructional leader	
60	Introduction to	Present the	Instructional	Slideshow

	quality improvement processes	slideshow. Stop periodically to check for understanding, answer questions, and have groups talk about how the process is applicable to their work.	leader	Quality Improvement Process*
45	Introduction to the PDSA Cycle Project	Present the slideshow. Stop periodically to check for understanding and answer questions.	Instructional leader	Slideshow PDSA Cycle Project*
30	Meeting logistics	Review existing meeting norms. Provide the team members with an opportunity to add additional meeting norms. Establish roles (grade-level team leader, timekeeper, note taker, and any other roles identified by the team). Establish routines (location of documents for easy retrieval by all and other necessary routines)	Grade-level team leader	Poster paper and markers for brainstorming
300	Create student assessments based on the CCSS.	Teachers will need to bring all of the materials and supplies they need for creating student assessments.**	Teachers	Computers Paper Pens Sample assessments Previous

				assessments
15	Next steps	Have teachers take time to record where they stopped.	Teachers	Meeting log*
15	Formative evaluation	What impact do you believe using the PDSA Cycle will have on student learning? What concerns do you have about using the PDSA cycle? What questions do you have about the process?	Instructional leader	Evaluation sheets
480 total minutes				

2nd Meeting PDSA Cycle – Planning				
Goals The goal is for teachers and instructional leaders to co-design lesson plans and an observation form for Class of the Week visits.				
Time	**Activity**	**Notes**	**Lead**	**Materials**
15	Address issues that emerged from evaluations of meeting #1	Analyze the evaluations from meeting #1 and determine what adjustments need to be made.***	Instructional leader	
375	Create lesson plans based on the CCSS.	Teachers will need to bring all of the materials and supplies they need for creating lesson plans.**	Teachers	Lesson plan template Computers Paper Pens
60	Class of the Week Observation Forms	Teachers will co-design the Class of the Week observation forms. The forms should focus on observing student learning.	Teachers	Computer

15	Next steps	Have teachers take time to record where they stopped.	Teachers	Meeting log*
15	Formative evaluation	Written feedback to be handed to the instructional leader.	Instructional leader	Evaluation sheets
480 total minutes				

3rd Meeting PDSA Cycle - Planning				
Goal Develop plans for Class of the Week visits.				
Time	**Activity**	**Notes**	**Lead**	**Materials**
25	Class of the Week Plans	Finalize the observation form for the Class of the Week visits. Schedule Class of the Week Visits.	Teachers	Meeting log*
5	Formative evaluation	Provided written feedback to the following questions: What went well during the meeting? What could be changed? How? What needs to be changed? How?	Instructional leader	Evaluation sheets
30 total minutes				

Class of the Week PDSA Cycle – Doing/Studying				
Goal Provide feedback on the Class of the Week observations and student work.				
Time	**Activity**	**Notes**	**Lead**	**Materials**
10	Observation Feedback	Discuss observations of the Class of the Week**	Teachers	
12	Collectively analyze student work	Have the Class of the Week's teacher identify students that he/she would like help in supporting through feedback.**	Teachers	
5	Track progress	Include both pluses,	Grade-level	Meeting Log*

		deltas, and challenges left to be solved Record the number/percent of students in each class achieving each proficiency level for each CCSS addressed	team leader	Progress Tracker*
3	Formative evaluation	Provided written feedback to the following questions: What went well during the meeting? What could be changed? How? What needs to be changed? How?	Instructional leader	
30 total minutes				

Problem of Practice Articulation – Studying				
Goal Identify a Problem of Practice to discuss with 2 other grade-level teams during the in-service day.				
Time	**Activity**	**Notes**	**Lead**	**Materials**
25	Problem of Practice Articulation	Based on all that the team has learned through co-creating lesson plans, student assessments, feedback on student work and through observations of classes, teams will identify a problem of practice to be discussed with 2 other grade-level teams. The team can identify 2 problems of practice and discuss one per team if that is preferred.	Teachers	Problem of Practice Template*
5	Formative evaluation	Provided written feedback to the	Instructional leader	Paper

		following questions: What went well during the meeting? What could be changed? How? What needs to be changed? How?		
30 total minutes				

In-service Day PDSA Cycle – Studying/Acting				
Goal The goal is to collaboratively brainstorm solutions to Problems of Practice and co-design student assessments and lesson plans based on the feedback.				
Time	**Activity**	**Notes**	**Lead**	**Materials**
120	Problem of Practice Protocol	Combine grade-level teams as described below for the PoP Protocol. Offer two rounds. Each round should last one hour. K,5; 1,2; 3,4 K,1; 2,3; 4,5	Grade-level team leader	Problem of Practice Protocol*
225	Create student assessments	Incorporate feedback from PoP Protocol to create assessments. Teachers will need to bring all of the materials and supplies they need for creating student assessments.**	Teachers	Computers Paper Pens Sample assessments Previous assessments
225	Create lesson plans based on the CCSS.	Incorporate feedback from PoP Protocol to create assessments. Teachers will need to bring all of the materials and supplies they need for creating lesson plans.**	Teachers	Lesson plan template Computers Paper Pens
30	Formative evaluation	Evaluate the entire PDSA process and	Teachers	

		make necessary adjustments for the next round. What went well during the first PDSA cycle? What could be changed? How? What needs to be changed? How?		
480 total minutes				

Final Meeting of the Semester PDSA Cycle – Studying/Acting				
Goal The goal is to collaboratively brainstorm solutions to Problems of Practice and co-design student assessments and lesson plans based on the feedback.				
Time	**Activity**	**Notes**	**Lead**	**Materials**
120	Problem of Practice Protocol	Combine grade-level teams in the follow way for the PoP Protocol. Offer two rounds. Each round should last one hour. K,5; 1,2; 3,4 K,1; 2,3; 4,5		Problem of Practice Protocol*
210	Create student assessments	Incorporate feedback from PoP Protocol to create assessments. Teachers will need to bring all of the materials and supplies they need for creating student assessments.**	Teachers	Computers Paper Pens Sample assessments Previous assessments
210	Create lesson plans based on the CCSS.	Incorporate feedback from PoP Protocol to create assessments. Teachers will need to bring all of the materials and supplies	Teachers	Lesson plan template Computers Paper Pens

		they need for creating lesson plans.**		
30	Summative Evaluation	Team members will individually answer the evaluation questions in writing. Teams will discuss the answers and come to a consensus on whether they will continue using the process or not. Questions What impact did using the PDSA Cycle have on student learning? What impact did using the PDSA Cycle have on your teaching practices? What else should be considered in a decision about whether or not to continue using the process? Would you like to continue using the process? Would you like to continue using the process after modifications are made? What modifications?		
30	School-wide discussion of	The faculty will meet as a large group to		

	team decisions	discuss the individual team decisions and the next steps.		
480 total minutes				

Evaluation Questions

1st Meeting

Was the goal of the meeting clearly articulated? Was the goal achieved?
What did you learn in the meeting?
How likely are you to use what you learned with your students?
How were your needs as a teacher to support student learning met during this meeting?
What impact do you believe using the PDSA Cycle will have on student learning?
What concerns do you have about using the PDSA cycle?
What questions do you have about the process?
Are the costs of the meeting outweighed by the benefits?
On a scale from 1-5 with 5 being the most effect, how would you rate this meeting?

2nd Meeting – 19th Meetings (except the in-service day)

Was the goal of the meeting clearly articulated? Was the goal achieved?
What did you learn in the meeting?
How likely are you to use what you learned with your students?
How were your needs as a teacher to support student learning met during this meeting?
What went well during the meeting?
What could be changed? How?
What needs to be changed? How?
Are the costs of the meeting outweighed by the benefits?
On a scale from 1-5 with 5 being the most effect, how would you rate this meeting?

In-service Day

Evaluate the entire PDSA process and make necessary adjustments for the next round.

Was the goal of the meeting clearly articulated? Was the goal achieved?
What did you learn in the meeting?
How likely are you to use what you learned with your students?

How were your needs as a teacher to support student learning met during this meeting?
What went well during the first PDSA cycle?
What could be changed? How?
What needs to be changed? How?
Are the costs of the meeting outweighed by the benefits?
On a scale from 1-5 with 5 being the most effect, how would you rate this meeting?

Last Meeting of the Semester

What impact did using the PDSA Cycle have on student learning?
What impact did using the PDSA Cycle have on your teaching practices?
What else should be considered in a decision about whether or not to continue using the process?
Would you like to continue using the process?
Would you like to continue using the process after modifications are made? What modifications?
Are the costs of the meeting outweighed by the benefits?

Meeting Log

Date

Team Members Present

Goal

Challenges Identified

Solutions Offered

Next Steps

Problem of Practice Template

The problem is. . .

We have tried. . .

Our question for the group is. . .

Problem of Practice Protocol

One grade-level team will share their Problem of Practice. The other grade-level team will provide feedback. After the protocol is complete, the roles will be reversed.

Step 1: Group A shares their problem. (5 minutes)

Step 2: Group B asks clarifying questions. (5 minutes)

Step 3: Group B brainstorms potential solutions while Group A listens. (10 minutes)

Step 4: Group B members advise Group A. (5 minutes)

Step 5: Group A responds to the advice. (5 minutes)

Sample Template for Tracking Student Progress

Standard	**Percent Advanced**	**Percent Mastery**	**Percent Basic**	**Percent Approaching Basic**	**Percent Unsatisfactory**
CCSS.ELA-Literacy.RL.K.1					
CCSS.ELA-Literacy.RL.K.2					
CCSS.ELA-Literacy.RL.K.3					
CCSS.ELA-Literacy.RL.K.4					

Implementation Plan

Meet with area superintendents at a regional meeting to share the study, findings, and project. Use the project slideshow during the meeting. Seek permission of the superintendents to present the study, findings, and project during district leadership meetings. If granted, present the same information to principals. Provide electronic access to the project materials to the interested educators.

If district leadership meetings are not an option, invite principals to a meeting held for those invited to participate in the study. Present the project slideshow during the meeting. Provide electronic access to the project materials to the interested educators.

Evaluation Plan (formative and summative)

The project includes both formative and summative evaluations. The evaluation questions are provided with the project materials. Formative assessments will take place

at the end of the first nineteen meetings. These evaluations will be used by grade-level team leaders and instructional leaders to make adjustments over the course of the project. The summative evaluation will be used to decide whether or not to use the process in the future.

Timeline of activities

Meeting	Minutes	PDSA Cycle	Meeting Title
1	480	Planning	1st Meeting
2	480	Planning	2nd Meeting
3	30	Planning	3rd Meeting
4	30	Doing/Studying	Class of the Week
5	30	Doing/Studying	Class of the Week
6	30	Doing/Studying	Class of the Week
7	30	Doing/Studying	Class of the Week
8	30	Doing/Studying	Class of the Week
9	30	Doing/Studying	Class of the Week
10	30	Doing/Studying	Problem of Practice Articulation
11	480	Acting/Planning	In-service Day
12	30	Doing/Studying	Class of the Week
13	30	Doing/Studying	Class of the Week
14	30	Doing/Studying	Class of the Week
15	30	Doing/Studying	Class of the Week
16	30	Doing/Studying	Class of the Week
17	30	Doing/Studying	Class of the Week
18	30	Doing/Studying	Class of the Week
19	30	Doing/Studying	Problem of Practice Articulation
20	480	Acting/Planning	Final Meeting of the Semester PDSA Cycle
TOTAL	**2400**		

Microsoft PowerPoint Slideshow PDSA Cycle Project

Progression of Elementary Teachers in Implementing Language Arts Common Core State Standards

Holly Boffy
Walden University

The Problem

Implementing the Common Core State Standards (CCSS) is a challenge for the educators involved in the process.

The process is unique for each individual (de Segovia & Hardison, 2009).

Implementation requires educators to rethink and redesign lesson plans, student assessments, lesson materials, and teaching practices to support students in meeting the higher standards (Alexander, 2013; Webb, 2013).

Definitions

- **Concerns based adoption model (CBAM)** is a multi-dimension framework that identifies the needs of individuals in the process of implementing an innovation (George, Hall & Stiegelbauer, 2013).
- **Common Core State Standards (CCSS)** outline the knowledge and skills that students need to obtain in English language arts and mathematics at each grade level from kindergarten through grade 12 (National Governors Association Center for Best Practices & Council for Chief State School Officers, 2012).
- **Levels of use (LoU)** is the dimension of CBAM that focuses on the actions of individuals in implementing an innovation (Hall, Dirksen & George, 2006).
- **Stages of concern (SoC)** is the dimension of CBAM that focuses on the beliefs and attitudes of individuals as they implement an innovation (George et al., 2013).

The Methodology

- Multicase study design
  - Four elementary schools
  - Data collected during the Fall of 2014
    - Interviews of an instructional leader from each school
    - Interviews of 12 total teachers
      - 3 teachers/school
      - Currently teaching grades 3rd – 5th
      - Currently teaching English Language Arts

- Research question: How do elementary school instructional leaders and English Language Arts teachers describe teachers' progress along the Common Core State Standards implementation continuum?

Cross-Case Themes	A	B	C	D
Teacher collaboration drives implementation progress		Yes	Yes	Yes
Teachers need training to make the required instructional shifts	Yes		Yes	Yes
Common processes to monitor implementation progress are a need		Yes	Yes	Yes
Aligned resources are a need		Yes	Yes	Yes

Case-Specific Themes	A	B	C	D
Practice time impacts implementation progress	Yes	Yes		
Teachers need clarity in implementation goals and plans	Yes			Yes
Teachers' peers influence their implementation decisions		Yes		
Gaps in student knowledge present implementation challenges			Yes	

The Project

- Purpose
  - Add a continuous, quality improvement structure to Professional Learning Community (PLC) meetings to drive progress along the implementation continuum
- Audience
  - Teachers & instructional leaders
- Activities
  - Co-creating lessons plans
  - Co-creating student assessments
  - Providing feedback on student work
  - Collaborative problem solving
  - Monitoring progress

COSTS	BENEFITS
One-hour coverage of each participating teacher's class 12 different times over the course of the semester	Builds on collaboration as strength
	Addresses two identified needs (preparation & progress monitoring)
	Utilizes existing PLC structure
	Provides information about implementation progress

Available Materials

- Project Slideshow
- Project Timeline
- Quality Improvement Process Slideshow
- PLC Meeting Agendas
- PLC Meeting Evaluation Questions
- Sample Template for Tracking Student Progress
- Problem of Practice Template
- Problem of Practice Protocol

Microsoft PowerPoint Slideshow Quality Improvement Processes

Quality Improvement Process

Holly Boffy

"Inherent in this approach is the assumption that improvement is always possible and continuous and that workers intend to perform well."

(Nadeem et al., 2013, p. 356)

Quality Improvement Processes

- Questions that describe the work
  - What are we trying to achieve?
  - How will we know if we have improved?
  - What changes can we make to improve?

  (Gillam & Siriwardean, 2013, p. 124)

- Used in other fields
  - Manufacturing
  - Health Care
  - Higher Education
  - Early Childhood Education

  (Al-Shammari, 2012; Ma et al., 2013; Marshall, 2010; Steiner & Walsworth, 2010)

~~Healthcare~~Education Principles for Quality Improvement Processes

- Measure quality, so that you can manage it.
- Focus on the ~~patient~~student, so that you may ~~satisfy him or her~~meet his/her learning needs.
- Tap the brainpower of everyone in the organization, so that you may take advantage of synergy.
- Plan strategically, so that you may think long term but act in the short term.

(Steiner and Walsworth, 2010)

Examples of Quality Improvement Processes

- Improving Performance in Practice (IPIP)
- Continuous Quality Improvement (CQI)
- Six Sigma
- Total Quality Management (TQM)
- Statistical Process Control (SPC)
- Statistical Quality Control (SQC)
- Lean
- Lean Six Sigma
- **Plan-Do-Study-Act Cycles or Plan-Do-Check-Act (PDCA) Cycles**

(Margolis et al., 2010; Nicolay et al., 2012)

Plan-Do-Study-Act (PDSA) Cycle

- Applicable to this project
- Popular process for collaborative learning sessions
- Fosters immediate adjustments through short feedback cycles

(Nadeem et al., 2010)

Components of PDSA Cycles

- Develop a plan and identify the success criteria
- Collect information while carrying out the plan
- Examine the results
- Adjust the original plan based on the results

(Gillam & Siriwardena, 2013)

Applying the PDSA Cycle to PLC Meetings

- Plan
  - Co-design lessons and assessments
- Do
  - Incorporate the lessons and assessments in their classrooms
- Study
  - Observe and provide feedback on learning in team-members' classrooms
  - Collaboratively construct feedback on student work
  - Participate in problem-identifying and problem-solving sessions
- Act
  - Co-design lessons and assessments based on learning

References

Al-Shammari, Z. (2012). Using AMLO to improve the quality of teacher education outcomes. *Educational Research Quarterly, 36*(1), 48-62.

Gillam, S., & Siriwardena, A. N. (2013). Frameworks for improvement: clinical audit, the plan-do-study-act cycle and significant event audit. *Quality in Primary Care*, *21*(2), 123-130.

Ma, X., Shen, J., Lu, X., Brandi, K., Goodman, J., & Watson, G. (2013). Can Quality Improvement System Improve Childcare Site Performance in School Readiness? *Journal of Educational Research, 106*(2), 146-156. doi:10.1080/00220671.2012.667015

Marshall, S. (2010). A quality framework for continuous improvement of e-learning: The e-learning maturity model. *Journal of Distance Education, 24*(1), 143-165.

Nadeem, E., Olin, S. S., Hill, L. C., Hoagwood, K. E., & Horwitz, S. M. (2013). Understanding the components of quality improvement collaboratives: A systematic literature review. *Milbank Quarterly, 91*(2), 354-394. doi:10.1111/milq.12016

Nicolay, C. R., Purkayastha, S., Greenhalgh, A., Benn, J., Chaturvedi, S., Phillips, N., & Darzi, A. (2012). Systematic review of the application of quality improvement methodologies from the manufacturing industry to surgical healthcare. *British Journal of Surgery*, *99*(3), 324-335. doi:10.1002/bjs.7803

Steiner, R. M., & Walsworth, D. T. (2010). Using quality experts from manufacturing to transform primary care. *Journal of Continuing Education in the Health Professions*, *30*(2), 95-105. doi:10.1002/chp.20065

Appendix B: Request for Cooperation

Dear Superintendent _____,

I am a doctoral student and am working on a project study to complete my degree. I am writing to ask for your approval to contact leaders and teachers in your school system to participate in a study.

The purpose of the study is to identify how teachers progress along the implementation continuum for the Common Core State Standards. The study is designed as a multicase study. My plan is to find 12 total teachers from four different schools to participate. To focus the study, the participants are limited to third through fifth grade teachers of English language arts. Each teacher will be asked to participate in an interview. My plan is to also conduct interviews of instructional coaches from the four different schools.

Based on the findings of the study, a project will be completed to address the identified needs of teachers to support their progress along the implementation continuum. I will share the project with you upon completion.

The measures that will be taken for ethical protection of the participants include maintaining confidentiality, obtaining informed consent, and protecting the participants from harm. The names of participants will be shielded from others at all times by codes. Pseudonyms will be used in the written report. Access to the data will be limited to me and my supervising faculty members. Potentially identifying links between people and places and their codes will not be shared with anyone. Informed consent will be obtained from the participants through the attached consent form. No vulnerable populations, except possibly pregnant women, will be included in the study.

If you approve of the study, will you also provide me with a list of elementary school principals in the district? I would also appreciate direction in who to contact for the e-mail addresses of the principals you suggest.

Thank you for considering this request.

Sincerely,

Holly Boffy
Doctoral Student
Walden University

Dear [redacted] Elementary School Principals,

Along with my other roles in education, I am a doctoral student and am working on a project study to complete my degree. I am writing to ask for your approval to contact teachers and instructional leaders in your school to participate in a study. Below you will see [redacted] permission for me to conduct the study in the district.

The purpose of the study is to identify how teachers progress along the implementation continuum for the Common Core State Standards. The study is designed as a multicase study. My plan is to find teachers from four different schools to participate. To focus the study, the participants are limited to third through fifth grade teachers of English language arts. Each teacher will be asked to participate in an interview. My plan is to also conduct interviews of instructional coaches from the four different schools.

Based on the findings of the study, a project will be completed to address the identified needs of teachers to support their progress along the implementation continuum. I will share the project with you upon completion.

The measures that will be taken for ethical protection of the participants include maintaining confidentiality, obtaining informed consent, and protecting the participants from harm. The names of participants will be shielded from others at all times by codes. Pseudonyms will be used in the written report. Access to the data will be limited to me and my supervising faculty members. Potentially identifying links between people and places and their codes will not be shared with anyone. Informed consent will be obtained from the participants. No vulnerable populations, except possibly pregnant women, will be included in the study.

If you approve of the study, will you also provide me with a list of instructional leaders and 3rd-5th grade ELA teachers and their summer e-mail addresses?

Thank you for considering this request. Please let me know if you have any questions. I hope to hear from you soon.

Sincerely,

Holly Boffy
Doctoral Student
Walden University

Appendix C: Confidentiality Agreement Template

During the course of my activity in collecting data for this research: "Common Core State Standards: A Qualitative Study of How Teachers Progress along the Implementation Continuum," I will have access to information, which is confidential and should not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

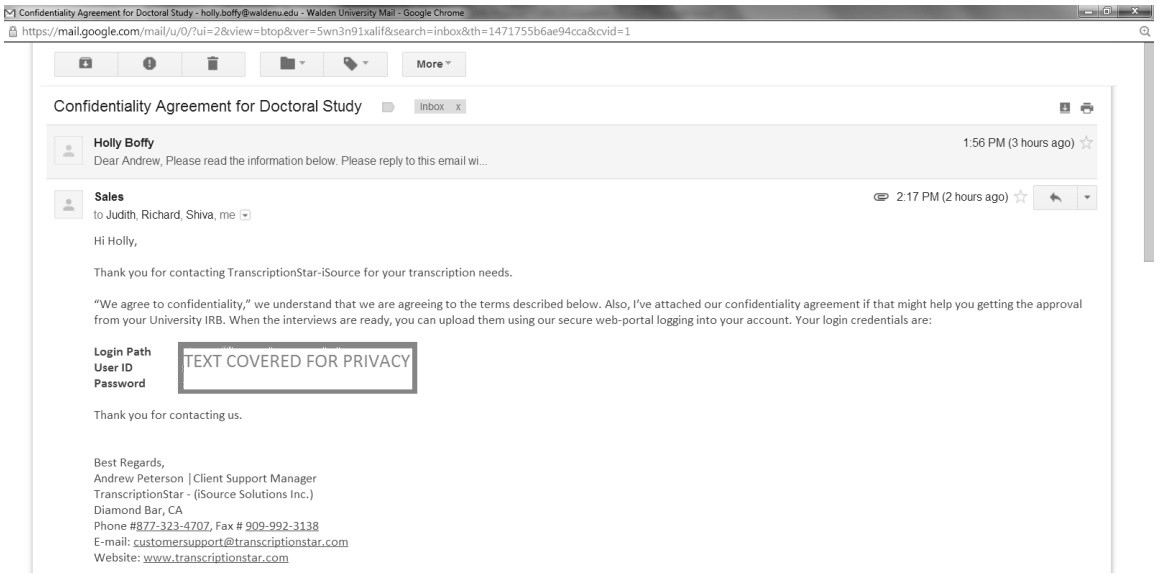
By electronically signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter or destroy any confidential information except as properly authorized.
3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
4. I will not make any unauthorized transmissions, inquiries, modification or purging of confidential information.
5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.
6. I understand that violation of this agreement will have legal implications.
7. I will only access or use systems or devices I'm officially authorized to access and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

I have read the above information. By replying to this e-mail with, "I agree to confidentiality," I understand that I am agreeing to the terms described above.

Appendix D: Confidentiality Agreements

Confidentiality Agreement with Transcription Service



Confidentiality Agreement for Doctoral Study - holly.boffy@waldenu.edu - Walden University Mail - Google Chrome

https://mail.google.com/mail/u/0/?ui=2&view=btop&ver=5wn3n91xalif&search=inbox&th=1471755b6ae94cca&cvid=1

More

Confidentiality Agreement for Doctoral Study Inbox x

Holly Boffy 1:56 PM (3 hours ago)
Dear Andrew, Please read the information below. Please reply to this email wi...

Sales 2:17 PM (2 hours ago)
to Judith, Richard, Shiva, me

Hi Holly,

Thank you for contacting TranscriptionStar-iSource for your transcription needs.

"We agree to confidentiality," we understand that we are agreeing to the terms described below. Also, I've attached our confidentiality agreement if that might help you getting the approval from your University IRB. When the interviews are ready, you can upload them using our secure web-portal logging into your account. Your login credentials are:

Login Path
User ID
Password

TEXT COVERED FOR PRIVACY

Thank you for contacting us.

Best Regards,
Andrew Peterson |Client Support Manager
TranscriptionStar - (iSource Solutions Inc.)
Diamond Bar, CA
Phone #877-323-4707, Fax # 909-992-3138
E-mail: customersupport@transcriptionstar.com
Website: www.transcriptionstar.com

Confidentiality Agreements with Peers for Debriefing

Confidentiality of peer debriefer - holly.boffy@waldenu.edu - Walden University Mail - Google Chrome

https://mail.google.com/mail/u/0/?ui=2&view=btop&ver=5wn3n91xalif&search=inbox&th=147180bfc4275393&cvid=3

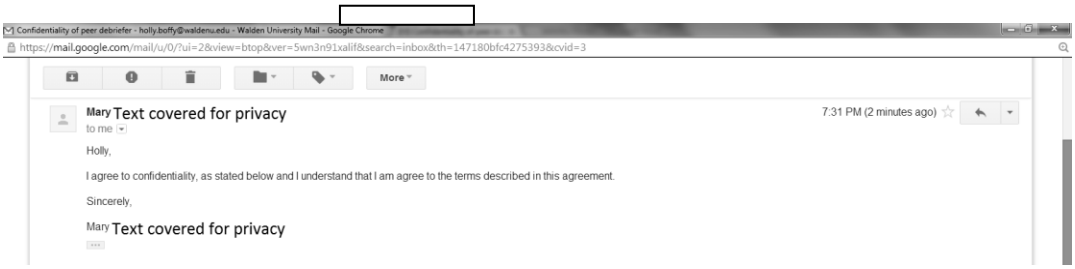
More

Text covered for privacy 6:23 PM (1 hour ago)

I agree to confidentiality.

Danielle Text covered for privacy

On Tue, Jul 8, 2014 at 5:18 PM, Holly Boffy <Text covered for privacy



Confidentiality of peer debriefer - holly.boffy@waldenu.edu - Walden University Mail - Google Chrome

https://mail.google.com/mail/u/0/?ui=2&view=btop&ver=5wn3n91xalif&search=inbox&th=147180bfc4275393&cvid=3

More

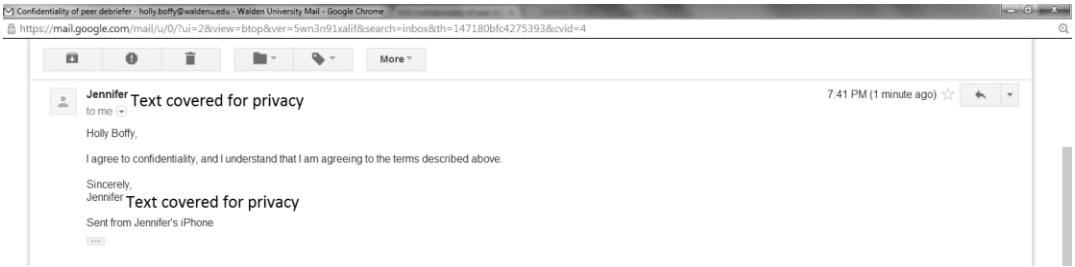
Mary Text covered for privacy 7:31 PM (2 minutes ago)
to me

Holly,

I agree to confidentiality, as stated below and I understand that I am agree to the terms described in this agreement.

Sincerely,

Mary Text covered for privacy



Confidentiality of peer debriefer - holly.boffy@waldenu.edu - Walden University Mail - Google Chrome

https://mail.google.com/mail/u/0/?ui=2&view=btop&ver=5wn3n91xalif&search=inbox&th=147180bfc4275393&cvid=4

More

Jennifer Text covered for privacy 7:41 PM (1 minute ago)
to me

Holly Boffy,

I agree to confidentiality, and I understand that I am agreeing to the terms described above.

Sincerely,
Jennifer Text covered for privacy

Sent from Jennifer's iPhone

Appendix E: Participant Consent Form

Consent Form

You are invited to take part in a research study of the implementation of the Common Core State Standards. The researcher is inviting 3rd through 5th grade English language arts teachers and instructional coaches to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Holly Boffy, who is a doctoral student at Walden University. You may already know the researcher as a state board member, but this study is separate from that role.

Background Information:
The purpose of the study is to explore how teachers progress along the implementation continuum for the Common Core State Standards.

Procedures:
If you agree to be in this study, you will be asked to:
• Participate in a one-hour interview.
• Participate in member checking where you review and comment on the accuracy of the findings of the study. This is expected to take less than thirty minutes.

Logistics:
The interview will be conducted in your classroom and/or office if available. If your classroom and/or office are not conducive to maintaining your privacy, the interview will be conducted in a meeting room at a public library.

The format for reviewing and commenting on the findings can take place over a conference call or via e-mail based on your preferences.

Sample Interview Questions:
• When and how did you first hear about the Common Core State Standards?
• How have your feelings about the standards changed over time?
• What barriers have you encountered in implementing the standards?

Voluntary Nature of the Study:
This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at the [redacted] School System will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind during or after the study. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life. The study possesses two minimal risks. One is the potential psychological threat of stress of having an additional time commitment. However, this risk is minimized by the researcher's plan to schedule interviews around the participants' schedule. The second is the minimal risk of perceived coercion to participate due to the researcher's position on the state board. However, this risk is minimized by the fact that the study is voluntary and the state board has no authority over personnel in school districts.

Being in this study would not pose risk to your safety or wellbeing.

The anticipated benefit of this research for the individual participants is the opportunity to reflect on your practice. The anticipated benefit of this research for society is an understanding of how individuals progress through the implementation process. This study is expected to lead to other studies.

Payment:
Compensation for participation will be a $5 gift card to a coffee house given to each participant at the beginning of each interview.

Privacy:
Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Electronic data will be kept secure through password protection. Physical data will be kept secure via a lock and key. Codes will be used instead of participants' names on documents. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via phone at [redacted] or e-mail at [redacted]. If you want to talk privately about your rights as a participant, you can call [redacted]. She is the Walden University representative who can discuss this with you. Her phone number is [redacted], extension [redacted]. Walden University's approval number for this study is **07-30-14-0235400** and it expires on **July 29, 2015.**

The researcher will give you a copy of this form to keep.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By replying to this e-mail with the words, “I consent,” I understand that I am agreeing to the terms described above.

Appendix F: Participant Invitation & Questionnaire

Dear Instructional Coaches & Third-Fifth Grade English language arts Teachers,

You are invited to take part in a research study of the implementation of the Common Core State Standards. The researcher is inviting 3rd through 5th grade English language arts teachers and instructional coaches to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Holly Boffy, who is a doctoral student at Walden University. You may already know the researcher as a state board member, but this study is separate from that role.

Background Information:
The purpose of the study is to explore how teachers progress along the implementation continuum for the Common Core State Standards.

Procedures:
If you agree to be in this study, you will be asked to:
• Participate in a one-hour interview.
• Participate in member checking where you review and comment on the accuracy of the findings of the study. This is expected to take less than thirty minutes.

Logistics:
The interview will be conducted in your classroom and/or office if available. If your classroom and/or office are not conducive to maintaining your privacy, the interview will be conducted in a meeting room at a public library.

The format for reviewing and commenting on the findings can take place over a conference call or via e-mail based on your preferences.

Sample Interview Questions:
• When and how did you first hear about the Common Core State Standards?
• How have your feelings about the standards changed over time?
• What barriers have you encountered in implementing the standards?

Name _____

School _____

How many years of teaching experience do you have?

What year did you learn about the Common Core State Standards?

Where did you first learn about the Common Core State Standards?

When did you first start implementing the Common Core State Standards?

What is your opinion of the Common Core State Standards?

How would you categorize implementation of the Common Core State Standards in your classroom?

None Approaching Basic Basic Mastery Advanced

Appendix G: Instructional Leader Interview Guide

Participant codes _____

Consent form signed _____

Gift certificate given to the participant _____

	Questions	Responses	Behaviors observed
1	How long have you been an instructional coach? How long did you teach before becoming a coach? Have you held other relevant positions?		
2	When and how did you first hear about the Common Core State Standards?		
3	Describe your approach to supporting teachers in implementing the standards. What did you do first? Second? Next?		
4	How have your teachers made progress implementing the standards?		
5	What are you observing/doing that supports teachers' in making progressing in implementing the standards?		
6	What has helped your teachers most in implementing the standards?		

7	What barriers have your teachers encountered in implementing the standards?		
8	How have your teachers overcome these barriers?		
9	Do you have tools to monitor your teachers' implementation process? If so, what?		
10	What do your teachers need to support their implementation of the standards?		
11	Is there anything that you would like to add or to clarify?		

Appendix H: Teacher Interview Guide

Participant code _____

Consent form signed _____

Gift certificate given to the participant _____

	Questions	Responses	Behaviors observed
1	What grade and subjects do you teach?		
2	How long have you been teaching?		
3	When and how did you first hear about the Common Core State Standards?		
4	Describe your approach to implementing the standards. What did you do first? Second? Next?		
5	How have your feelings about the standards changed over time?		
6	How have you made progress in implementing the standards?		
7	Describe the tools and/or resources that are helpful in implementing the standards.		
8	What barriers have you encountered in implementing the standards?		
9	How have you overcome these barriers?		
10	Do you have tools to monitor your own implementation process? If so, what?		
11	What do you need to support your implementation of the standards?		
12	Is there anything that you would like to add or clarify?		

Appendix I: Certificate of Completion: Protecting Participants